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Typhus in Eastern Europe

The ravages of typhus fever (spotted typhus) during the first World War, and the civil disturbances following it, form a grim chapter in the history of epidemics. Russia alone, during 1917-1921 is said to have lost two and a half to three million lives, and this is even considered a conservative estimate.

There are great fears that this frightful loss of life from typhus will be repeated in the present war. We learn from many sources that typhus epidemics are raging in the countries of Eastern Europe. It is relatively easy to prevent the spread of a typhus epidemic in normal countries with a normal average hygiene, but the terrible conditions now existing in eastern European countries are ideal for the spread of the disease.

It is true that one restriction has to be made. While there is no doubt that the epidemic in Poland and other occupied areas does exist, and apparently to a greater extent than German authorities admit, some skeptical observers believe that the desire to keep enemy intelligence agents away from certain zones has played a decisive part in the establishment of a "quarantine line" which somewhat suspiciously follows the lines of newly built fortifications.

In a recent study, the Metropolitan Life Insurance Company has tried to compile some authentic statistical figures concerning the actual spread of typhus fever in Eastern Europe. The number of cases in German occupied Poland rose tenfold in 1940 above the numbers for 1938 and 1939, and, as of the latest date in 1941, the number has again been trebled over the figure for 1940. Some cases have appeared in Germany itself and in other areas seized by her in 1938-1939. Increase of typhus fever exists in the whole combat area of Eastern Europe, stretching from the Baltic to the Black Sea. In Russia, more than forty thousand cases were recorded in 1936, the last full year for which such data are available.

In the territory acquired by Hungary from Czechoslovakia, the frequency of typhus rose approximately fourfold in 1940, and the latest data in 1941 show a fifty percent increase over 1940. In Rumania the frequency of the disease in 1940 was somewhat above normal, and rose rather sharply in the first half of 1941; the situation is probably even worse than appears from the statistics. In Bulgaria typhus did not rise in recent years much above prewar levels until the first part of 1941, when the incidence practically doubled over 1940. In Yugoslavia the facts are available only for the first two months of 1941 prior to its invasion. Conditions in that unhappy country now are so bad that the outlook is rather grim. During the first World War, Serbia experienced as early as 1915 an epidemic that took hundreds of thousands of lives of her citizens and of Austrian prisoners of war. Incidentally, Spain has suffered a severe outbreak, with the number of cases exceeding eight thousand during the first eight months of 1941.

Typhus looms as a dark menace over all of eastern and southeastern Europe in territories harboring a prewar population of 125,000,000 people. The tragedy of typhus is, as the report of the Metropolitan Life Insurance Company also points out, that it is perfectly controllable by comparatively simple sanitary measures. But the great bulk of the people in these areas, who live, even in the best of times, at little above a subsistence level, have been reduced much below that level. In addition to serious shortages of food, fuel and clothing, there has been destruction of houses and transportation facilities on an enormous scale. These circumstances, together with overcrowding and with the apathy engendered by famine and tyranny on the populations affected, make them a prey to the rapid spread of typhus.

Nurses in War Time

Mayor La Guardia, in his capacity as Federal Director of Civilian Defense, announced recently that in collaboration with the American Red Cross and the major hospitals of the country, his organization will train one hundred thousand volunteer nurses' aides throughout the nation in the next twelve months.

The curriculum of instruction for the volunteer nurses' aides, who will wear the uniforms and insignia of civilian defense, has been prepared by the Medical Division of the Office of Civilian Defense, the Red Cross and the Federal Security Agency. Eligibility in the corps is limited to women between the ages of eighteen and fifty who have at least a high school education or its equivalent and who are physically fit.

In Great Britain the problem of meeting the increased demand for nurses in time of war without lowering the general standard of the profession received careful attention before the outbreak of the war. The Civil Nursing Reserve, formed by the Ministry of Health, is open to three categories of recruits: (a) trained nurses not already actively engaged in nursing work; (b) assistant nurses, and (c) nursing auxiliaries.

Assistant nurses were those who had taken an incomplete training and had subsequently earned their living by nursing work. Those eligible to join the category of nursing auxiliaries were, in the first place, members of the British Red Cross Society or the St. John Ambulance Association, qualified in first aid detachments in the last war, and most of them had had a course of practical work in hospitals. To supplement this personnel, a special course of training was arranged for those who wished to give similar service in time of war, but had had no training. Others eligible to join this category were those engaged in a profession allied to nursing (such as massage) who could offer temporary service pending employment in their own profession.

Up to the end of March, 1940, the number of registered personnel in England distributed to the various regions were: trained nurses, 14,764; assistant nurses, 7,822; nursing auxiliaries, 39,657. Members of the Civil Nursing Reserve were not to be sent out of the country, the nursing services of the army, navy, and air force being mobilized for service overseas. Schools of intensive training, under the auspices of the British Red Cross Society and Order of St. John of Jerusalem, have been established at various centers.

War and Venereal Diseases

From time to time our pages have been utilized to spread the gospel regarding venereal diseases and national defense; venereal diseases and industry; venereal diseases and marriage. Now, our country is at war. Sad as it may be, twice in the short span of life of those in their third decade, the people of the United States are engaged in a struggle involving death and destruction through the agency of war. Twice in so brief a period, the message goes forth that the preventable ills of peace must be eradicated to conserve the health of those at war. The venereal diseases rank first in the preventable diseases; their reduction or eradication conserves health, and hours of labor. Syphilis and gonorrhea are controllable by mechanisms available to all communities.

Publicized differences of opinion on the present status of the effort against the preventable venereal diseases are ostensibly being carried on between nonofficial representatives of the United States Public Health Service section of the Federal Security Agency, and the Medical Department of the United States Army. The view that this apparent feud is for purposes of intensifying the joint effort made by these agencies is not impossible. The shouts are all from the side lines for instituting the machinery of the May Act. If and when the United States Public Health Service or the United States Army desires the cumbersome and unwieldy interposition of the Federal Bureau of Investigation into a health problem, it may be assumed without question that a request from either will bring results.

At the moment, conditions reported by nonprofessional observers seem better than anticipated. Since the country is at war, morale, or lack of it, has ceased being a subject for Sunday supplements. There are few enough communities recognizing legal prostitution. With the stress of war, and an awakened civil citizenry, few peace officers will feel they can sanction legalizing prostitution through periodic arrests, cash fines in lieu of license fees, and other subterfuges.

The military authorities of the world have always held that preventable venereal diseases in the armed forces reflected the status of diseases in this category in the civilian populace among whom the soldiers lived in their free time. Again, it may not be impossible that the reverse is equally true. It is recognized that one infected woman may render many soldiers or sailors ineffective for military duty because of venereal disease. It is not impossible for great numbers of civilians to become ineffective from venereal disease introduced into the community through infected soldiers.

The community of interest between the armed or military forces and the civilian population is stressed. Each has a stake in this game. Neither can ignore the other. It is best that they work together. The exchange of information is of greatest import. Places in civilian life, hotels, bars, grills, honky-tonks, known to the civilian health authority to be places of congregation of women likely to be sources of infection to men of the armed or the industrial forces, should be closed. Military police and navy patrols should be stationed before others with orders to deny entrance to men in uniform. The converse must also apply. The officers must report to the civilian health authority on the source of infection of their men, giving not only the information regarding the individual, but also the meeting place.

Of course, it is recognized that repressive measures are only part of the job. Men facing the realism of war are not deterred by the usual amateur psychology of a well-meaning, moral official regarding avoidance of possibility of venereal infection. This form of prevention must be retained, in fact must be improved. But, the man must likewise be offered some measure of prevention after exposure he could not resist. No consideration may be given to any expressed or implied objec-

tion to the distribution of effective physical preventives. No consideration may be given to any expressed or implied objection to the establishment and maintenance of stations for the administration of chemical preventive measures wherever soldiers, sailors, or industrial workers congregate. There should be no distinction. There should be no limitation.

Controlled experimentation in the utilization of the sulfonamide drugs as a preventive for gonorrhea, chancroid, and granuloma inguinale should be instituted *now*. Recent pharmacological vehicles of the greaseless cream or vanishing cream base type should be substituted *now* for the older calomel ointment unchanged since the day of Metchnikoff. This is 1942; this is war!

Of course, there must be nice places for the soldiers and sailors to meet nice girls. Of course, there must be increased civilian response to the need for the men seeking harmless recreation. Clubs, dances, parties, family home dinners must be available in ever greater number to the man off duty. But we must be realistic! We must face facts! We must prevent venereal diseases by every possible measure. We must not ignore the man in the army unable to resist exposure to infection to venereal disease. We require men free of disease. We must avail ourselves of every weapon to attain that end. Our country is at war!

Deficient Gastric Secretion

Of the many ills to which human flesh is heir, or has acquired, deficient gastric secretion is fairly common. In these times of stress and strain, when most of the world seems upside down and when anxiety and worry is prevalent or rampant, a condition of the nature of deficient gastric secretion is necessarily widespread. It is brought about by nervous stimuli passing along the vagi and by chemical stimuli. The stimuli are a reflex from the passage of impulses to the brain, incited by the sight, smell and taste of food. Worry and anxiety play their part in producing this condition. Alcohol, by lessening worry and anxiety and the sensation of nervous exhaustion, increases the secretion. Also substances which have a powerful effect on the sense of taste increase the secretion. Bitters, such as gentian, quassia and calumba, have a like action. Quinine, nux vomica and its constituent, strychnine, act in a similar way but more strongly. It may be no exaggeration to say that the main value of strychnine as a medicine is its bitter tonic and appetizing action. Bitters, however, do not increase the flow of gastric juice when introduced directly into the stomach; they act on the sensory nerve endings in the mouth. They are not nutrients but excite the sensation of hunger or appetite.

The chemical stimuli to gastric secretion are first and foremost meat extracts and soups which act in the stomach and not in the mouth as the bitters. Alcohol, too, has a direct stimulating action on the fundus, causing the secretion of gastric juice, thus increasing appetite. Meat extracts, bitters or alcohol may therefore be termed restoratives or tonics. The successful treatment of deficient gastric secretion is an example of the effect of the mind on the body, and vice versa. The wise physician treats both body and mind and the cheerful, confident physician by so doing acts as a tonic.

Nutrition

Proper nutrition is the basis of mental and physical fitness and is the best means of preventing disease. But proper nutrition is difficult to define. Climate, occupation and race have to be considered. A person engaged in manual labor in the open air can and ought to be able to digest and assimilate more food and of a kind different from that eaten by one employed in indoor work or whose occupation is sedentary. Food must also be in keeping with the climate to afford proper nutrition. That which is suitable for cold countries may be unsuitable for the tropics or subtropics, and so on. Race and individual idiosyncrasies play a rôle, and the personal equation must not be ignored.

An adequate diet should be nourishing and well balanced, with an ample vitamin and mineral content. It has been said that if the minerals are present in proper proportion the vitamins will be there too. The balance is important in that deficiency of one essential often means excess of another. For example, excess of starch may mean relative deficiency of water soluble vitamin B, and excess of fats a relative deficiency of iodine.

The greatest protection against disease is to be well nourished, and the quality of food is often of much greater consequence than the quantity. An adequate amount of food does not necessarily mean a large quantity. In adults, overeating is more harmful than undereating. Moderation in eating is a valuable axiom. The poor everywhere, that is, the mass of the people, are ill-nourished and undernourished. They get neither enough food nor food of the best quality. Thus malnutrition and undernutrition are prevalent. Ignorance of what to buy and the fact that it is difficult for the poor to buy cheaply are responsible for this situation. Those who buy in small quantities buy in the dearest market. While the machine spells progress in some respects, its coming has not tended to the attainment and maintenance of good health. Thus, the introduction of the roller mill caused a demand for white flour which has not been in the interests of the health of the people.

Wartime food problems are once more to the front in Europe and Asia. Food may mean victory or defeat. The defeat of the Italians at Caporetto in the last war is ascribed to the reduction of the rations of the Italian troops below a minimum caloric value. Was it a dictum of Napoleon that an army marches on its belly? It is

certainly obvious that a well nourished army should be able to march, undergo hardships and fight better than an ill-fed one.

Physical and mental fitness depends largely, if not chiefly, upon proper nutrition. A well-nourished body is easily the most effective protection against disease, so that a nation of well-nourished individuals is a healthy nation. The truth is that no hard and fast rule can be laid down for diet under any conditions. General principles founded on experience and scientific research may be followed, but so many things have to be taken into consideration that such principles cannot be followed rigidly. Everyone should have enough to eat and, as far as circumstances permit, the right kind of food. Recent research work on nutrition recognized and emphasized the menace of malnutrition and undernutrition during the early years of life, including the prenatal period. The way to build up a healthy race, with good physique, is to see that the nutrition of the expectant mother and the pre-school child is adequate, both as to quantity and quality. The incidence of disease due to faulty diet is high. Proper nutrition is the first line of defense.

Notes on Blood Transfusion

An interesting and valuable comment on blood transfusion in the Battle of France is contributed by Captain W. d'A. Maycock, of the Royal Army Medical Corps, to the *British Medical Journal,* October 5, 1940. On the whole, blood and plasma transfusion appears to have been very successful and in most seemingly bad conditions. The following quotation from Captain Maycock's letter gives a good idea of the general working conditions and the utility of a mobile refrigerator: "Transfusions were given to patients in beds, on stretchers, in clean rooms and hovels. . . . Asepsis did not exist; antisepsis in most cases was impossible to achieve. I am convinced, as a result of this experience that a transfusion could be given in absolutely any circumstances except in a vehicle." Also, the incidence of reactions following the administration of stored blood was negligible. The oldest blood used had probably been bottled for three weeks. An extreme instance was the successful administration of blood seven weeks old. All reports emphasize that transport over appalling roads for long distances seemed to have had little ill effect on the blood; no increased hemolysis was encountered. In one case the cells and plasma were barely mixed after being transported from near Arras to Brussels, approximately one hundred miles, in a mobile refrigerator.

One point stands out from the experience in Flanders, that in order to obtain any success with blood and plasma transfusion severely wounded men must be treated early. To achieve this, either there must be an efficient and rapid system of transporting the wounded from the field to the place of treatment, or supplies of stored blood or preferably plasma which does not require refrigeration, must be made available at medical units further forward than the casualty clearing stations. Secondly, any unit which is to receive and operate on the wounded must be adequately equipped for resuscitation; a ward or room should be set aside for this purpose where the necessary apparatus (hot cradles, hot water bottles, oxygen cylinders, masks, etc.), instruments, drugs, dressings, blood, plasma, and glucose saline are concentrated, under the supervision of one medical officer or perhaps two medical officers and their assistants. To this ward only cases requiring resuscitation should be admitted, and the medical officer in charge should have had enough experience to enable him to judge which cases were sufficiently resuscitated to have a reasonable chance of surviving operation.

The foregoing reads as if it were a good summary of what happened during some of the fighting in France and the conclusions drawn from these happenings by an experienced army officer who was on the spot.

Edward Allen: Bayley Medallist

A short time ago, the Bayley Medal of the Royal College of Physicians was awarded to Edgar Allen, professor of anatomy, Yale University School of Medicine. He is greatly interested in the subject of sex hormones and at the University of Missouri, where he was before coming to Yale, his department proved to be a fruitful and vigorous center of research on this subject. At Yale he has proceeded along similar lines with the same enthusiasm and has imbued the members of his department with a similar progressive spirit.

Prof. Allen has made important contributions to the subject of sex hormones, leading to a proper understanding of the endocrine action of the ovaries. Up to 1917, the attempts to isolate ovarian internal secretions were hampered by the fact that there was no specific test for estrogenic action. Stockard and Papanicolaou helped to clear the way in this direction, while later Allen went further and with Doisy brought out a practical means of using his discovery as a test for the estrogenic action of ovarian extracts. Thus, the door was opened to the chemical isolation, analysis, and synthesis of pure estrogens. Although Allen did not take part in this later chemical work, he pointed the way, and there is little doubt that it would have been impossible if he had not developed his bioassay method.

In 1926, Allen showed that the follicular phase of the uterine cycle in monkeys and man was under the control of estrogenic hormones. Again he was a blazer of the trail, as all later work on the primate cycle emerges from this finding. Allen is a research worker of the highest order and an able administrator, and thus is able to get the most out of his discoveries.

Papers and Addresses

INFLUENCE OF MENTAL AGE UPON EFFICIENCY OF WARD PERSONNEL IN A MENTAL HOSPITAL[1]

ROLLIN V. HADLEY[2] and NEIL A. DAYTON[3]
Boston, Mass.

In the present national emergency, problems in reference to ward personnel are becoming more and more acute as time goes on. A considerable number of men and women are being withdrawn from hospital services to take places in the armed forces of the United States or in private industry. In this situation it becomes imperative that every possible means be taken to evaluate our resources and set up an alternative that may be resorted to in case of emergency.

The ward personnel of a mental hospital is the foundation upon which the entire service of the hospital must rest. Capable administration, satisfactory medical care, painstaking preparation of food, and various types of therapy are of no avail if the quality of the work done by the ward personnel is unsatisfactory. Under the present wage scale in Massachusetts, attendants working with patients on the ward service are paid $45 per month. This salary is barely satisfactory in ordinary times when there has been no disruption of labor through unusual demands arising from new developments in industry. In boom times employees are attracted away from hospital service into various channels in increasing numbers, and the situation becomes extremely difficult. The hospitals must plan ways of continuing efficient services with new employees who would not have been engaged in average times.

With this situation facing us, it is imperative that every possibility in the line of preserving ward service be investigated. One lead is in the direction of studying the levels of intelligence that are necessary in employees to insure the successful carrying on of the duties of ward care of mental patients. Can we learn anything new by studying the relationship between mental age and performance in our employees in past years? It may be that we have overestimated the value of high mental ages in carrying out the ordinary ward routine of a mental hospital. On the other hand, it may be that only the higher mental ages are fitted for the rather difficult problem of caring for the mental patient. What is the evidence on this point?

Material and Method

One hundred and forty ward attendants employed at the Westborough State Hospital during the year 1936 constitute the material of this study. Thirty-seven of the attendants were males and 103 were females. On entering service each new employee was given a standard mental test by the staff psychologist.[4] This was done at the time of employment or as soon afterward as possible. Mental age, chronological age and intelligence quotient were entered upon the record sheet. At the time of discharge or resignation, or at the end of the study period (December 31, 1939), a point summary of the rating scale was made and entered. The rating of employees was done by a board composed of the assistant superintendent, superintendent of nurses, chief supervisor (male), together with supervisors and head nurses of wards involved.

Persons employed the first part of 1936 and continuing in service were observed a period of just under four years. Persons engaged during the last months of 1936 and remaining throughout the period would be in service about three years. Thus the average term of observation for employees remaining in service throughout the entire period is about three and a half years. In the case of attendants discharged or resigning, the period of observation varies in accordance with the time the individual was employed. Some left service within a few weeks. Others worked two or three years before discharge or resignation.

The criteria for determining employees' efficiency were a series of grades given the attendants by the rating board.[5] A number of items connected with daily work and personal conduct while in the employ of the hospital are analyzed. The characteristics or traits are divided into three main groups: Ward Administration, Care of Patients, and General Traits. Each of these major groups is divided into subgroups. For example, under Ward Administration the first item is "housekeeping". When the rating board considers the qualifications of the employee, it rates this employee on the following scale:

	Rating
(a) Poor in housekeeping	0
(b) Average work in housekeeping	1
(c) Good in housekeeping	2

For all items the employees are, therefore, rated on a three point basis, poor, average or good. The scores made by employees in different items are added up to obtain a total score for that main heading. In Ward Administration the subgroups are: Housekeeping, Organization of Patient Activities, Control of Destruction

[1]Read at the Annual Meeting of the American Psychiatric Association, Richmond, Virginia, May 5-9, 1941.

[2]Assistant to Commissioner, State Department of Mental Health, Boston, Mass.; formerly assistant superintendent, Westborough State Hospital.

[3]Superintendent, Mansfield Training School, Mansfield Depot, Conn.; formerly Director of Statistics, State Department of Mental Health, Boston.

[4]The Stanford Revision of the Binet-Simon was used in all examinations. The writers wish to acknowledge their indebtedness to Miss Adelaide Proctor, psychologist, Westborough State Hospital, who conducted the tests.

[5]The employees' rating scale used in this article was developed by Dr. William A. Bryan, former superintendent of the Worcester State Hospital. See *Administrative Psychiatry*, chapter 4, pp. 87-89, Norton & Co., New York, 1936. A later revision of this test was used in the present analysis.

and Waste. In the second group, that of Care of Patients, there are three subheadings: Reaction of Patient to Employee, Interest in Patients' Welfare, and General Knowledge of Patients and their needs. The third major group, General Traits, includes six headings. They are: Loyalty to Hospital, Sense of Responsibility, Punctuality, General Health of Employee, General Appearance of Employee, and Industriousness or Effort.

In the first group, General Administration, an attendant with a perfect rating would score six points. In Care of Patients, the employee with a perfect rating would score another six points. In General Traits the employee with a perfect score would receive twelve points. All of the scores are added together to give a total score for each employee. After the necessary details of estimating, scoring and recording were completed, a special statistical code was devised. The data were transferred from the rating sheets to the code sheets and later to statistical punch cards. The punch cards were sorted, and the information was entered upon the necessary tables.[6]

Relationship Between Mental Age and Outcome of Employment (Discharged, Resigned, or Remained in Service)

In the totals for both sexes, Table 1, we note that fifteen percent of the 1936 employees had been discharged by the end of 1939, another seventy-seven percent had resigned, and six percent were still in the service of the hospital. Men and women differ markedly in outcome. More men (twenty-four percent) than women (twelve percent) were discharged. Fewer men (fifty-six percent) than women (eighty-five percent) resigned from the service. More men (eighteen percent) than women (one percent) remained in service at the end of 1939.

As the numbers are rather small in the various groups, the discussion on the relationship between mental age and outcome will be confined to the total of both sexes together. In the employees discharged, the high figure of twenty-two percent occurs in those with a mental age of thirteen years.

However, the mental ages of fifteen and seventeen years are high also with twenty percent discharged. The high figure for resignations occurs in those who presented a mental age of twelve years (eighty-two percent). However, the mental ages of fourteen and seventeen years are also high with eighty percent of resignations. In those remaining in service, employees with a mental age of sixteen years at the time of entering service show the high figure of sixteen percent.

In general, the results are very mixed. It is difficult to say that any of the mental ages are showing a specific relationship with discharge, resignation or a tendency to remain in service.

Relationship Between Mental Age of Employees and Length of Employment

Considering both sexes together, we find that the 140 attendants employed in 1936 remained in service an average of 8.4 months. The totals at the bottom of Table 2 show that the men, with an average employment period of fifteen months, remained more than twice as long as the women, who presented an average employment period of six months. From Table I we learned that there was a larger percentage of the original number of men remaining in service at the end of 1939 (eighteen percent) than of the women (one percent). This greater percentage of men who became permanent employees is now being translated into an average length of employment (fifteen months) which is much longer than that of the women (six months).

In studying the relationship between mental age and length of employment, it is observed that the men with mental ages of fifteen and sixteen years show the longest period of employment, twenty-five and twenty-four months, respectively. The women of the same mental ages also present the long average period of employment, 8.0 and 8.6 months. Both men and women employees with mental ages of twelve years show rather short periods of employment (7.5 months in men and 3.9 months in women). In other words, employees with mental ages of fifteen and sixteen years are contributing larger numbers who remain in service for longer periods than either the lowest or highest mental ages.

Relationship Between Age at Time of Entering Service and Length of Employment

Table 3 outlines two points: 1, the relationship between age at time of entering service and the recorded mental age, and 2, the average length of employment in months. Fifty-five percent of employees entering service in 1936 were aged twenty-one years or less. Seventy-five percent were aged twenty-five years or less. In studying the averages in the bottom line of Table 3 we observe that the men were slightly older (twenty-five years) than the women (twenty-three years). In mental age, the men (14.9 years) were slightly higher than the women (14.5 years). In the men, those aged twenty-six to twenty-nine years at employment (16.0 years) and those aged forty plus years (16.5 years) show the highest average mental age. The low figure is shown in those aged thirty-five to thirty-nine years (13.5 years). Women aged forty plus years at employment show the high average mental age (15.2 years) and those thirty to thirty-four years the lowest average (12.9 years).

Comparing age when employed and average length of employment, it is found that the men who were thirty-five years or older show the longest average time employed, thirty-six months. In the women, those aged between twenty-two and twenty-five years show the longest average period employed (8.1 months).

In a study of the relationship between age and length of employment, the men show a longer average period of employment than the women in every age group. In men, it is very clear that those who are older at time of employment are tending to remain in the service. The women, with vastly shorter average periods of employment, show the long average for those who were twenty-two to twenty-five years at the time of entering service. In both men and women, the employees entering service in the ages under twenty years are showing short periods of employment. The older the man, the greater the chance that he will remain for a fairly long period in service. In the women those aged between twenty and twenty-five offer the best chance of remaining a fairly long period in the service of the hospital.

[6]The writers wish to thank Mrs. Dorothy A. Kunberger, Miss Mary R. White and Mrs. Irene Aiello, Division of Statistics, Massachusetts State Department of Mental Health, for assistance in setting up the code, graph construction and table making.

Table 1: Attendants First Employed by Westboro State Hospital in 1936 Who Were Discharged or Resigned During 1936-1939, or Were Still in Service on December 31, 1939, by Mental Age a Time of Employment.

MENTAL AGE AT TIME OF EMPLOYMENT	TOTAL NO.	TOTAL PERCENT	DISCHARGED NO.	DISCHARGED PERCENT	RESIGNED NO.	RESIGNED PERCENT	STILL IN SERVICE NO.	STILL IN SERVICE PERCENT
12 years or less[1]	17	100.0	3	17.6	14	82.3	–	—
13 years	22	100.0	5	22.7	14	63.6	3	13.6
14 years	31	100.0	5	16.1	25	80.6	1	3.2
15 years	20	100.0	4	20.0	14	70.0	2	10.0
16 years	18	100.0	1	5.5	14	77.7	3	16.6
17 years	5	100.0	1	20.0	4	80.0	–	—
Unknown	27	100.0	3	11.1	24	88.8	–	—
Total	140	100.0	22	15.7	109	77.8	9	6.4
Males								
12 years or less	1	100.0	1	100.0	–	—	–	—
13 years	7	100.0	3	42.8	1	14.2	3	42.8
14 years	6	100.0	2	33.3	4	66.6	–	—
15 years	3	100.0	–	—	2	66.6	1	33.3
16 years	6	100.0	1	16.6	2	33.3	3	50.0
17 years	2	100.0	1	50.0	1	50.0	–	—
Unknown	12	100.0	1	8.3	11	91.6	–	—
Total	37	100.0	9	24.3	21	56.7	7	18.9
Females								
12 years or less	16	100.0	2	12.5	14	87.5	–	—
13 years	15	100.0	2	13.3	13	86.6	–	—
14 years	25	100.0	3	12.0	21	84 0	1	4.0
15 years	17	100.0	4	23.5	12	70.5	1	5.8
16 years	12	100.0	–	—	12	100.0	–	—
17 years	3	100.0	–	—	3	100.0	–	—
Unknown	15	100.0	2	13.3	13	86.6	–	—
Total	103	100.0	13	12.6	88	85.4	2	1.9

[1]Includes two employees with mental age of eleven years.

Relationship Between Intelligence Quotient of Employee and Length of Employment

In regard to the relationship between the intelligence quotient of employees and the average months of employment, the males with an I.Q. of .79 or less show the short average stay of seven months. Men with intelligence quotients between .80 and 1.09 are fairly constant with an average employment period of about twenty months. Those with an I.Q. of 1.10 or higher show the long residence of twenty-eight months. In the women, the same general situation applies. The low I.Q. group (.79 or less) shows the short period employed of three months. The long employment period in women is observed in those with intelligence quotients between .90 and 1.09.

Relationship Between Mental Age and Efficiency in Ward Administration

From general considerations we now pass to a study of specific relationships between mental age of employees and their recorded accomplishments in definite fields of activity. Three points are studied under the heading of Ward Administration. They are: 1, Housekeeping; 2, Organization of Patients, and 3, Control of Destruction and Waste. In the original rating scale each of these sub-heads was given a rating of 0, 1, or 2. The 0 score recorded poor work; the 1 score, average work, and the 2 score, good work. We now observe the different mental ages separately and record the score made by employees falling in each mental age group.

The average accomplishments in Ward Administration are studied first. In Housekeeping, it is observed that patients presenting a mental age of twelve years or less show the low score, averaging 1.1 points. Mental ages from thirteen to fifteen are on a level with averages of 1.4 and 1.5. The mental age of sixteen years is slightly higher with an average of 1.6. The mental age group of seventeen years is highest with an average score of 2.1 points.

In Housekeeping, an association between high mental age of the employee and the most efficient performance in Housekeeping is observed. The observed linkage challenges the claim that any one is able to do housework. The women will be glad to have the proof of something they have known for a good many years, namely, that it takes brains to be a good housekeeper.

Organization of Patients shows a rather similar configuration. The mental age of twelve years shows the low average score; mental ages between thirteen and fifteen are on a similar level, while the mental ages of sixteen and seventeen years are distinctly higher.

In Control of Destruction and Waste we have the surprising finding that the mental age of the employee does not seem to make a great deal of difference. It is true that the mental ages of fifteen years and higher show a slightly higher average performance but the differences are not outstanding.

We now add together the points scored in the three groupings of Housekeeping, Organization of Patients, and Control of Destruction and Waste. The men show higher general levels of performance than the women. In three of the six mental age groups, the sexes demonstrate the same average performance. In the men, the score rises from the low average of five points in the twelve year mental age group, to eleven points in the seventeen year group. In the women the

low average score of five points occurs with mental ages of twelve years, and the high score of eight points occurs in those with mental ages of seventeen years. The women are more consistent in their findings and show little variation in accordance with mental age. The men are showing a greater tendency to variation in the different mental age groups and a much better performance with a higher mental age. In both men and women the mental ages of seventeen years show the high total scores.

In Knowledge of Patients we observe somewhat the same situation. All employees with mental ages from twelve to sixteen years are very well informed as to the patient's condition and needs. This again is encouraging as it shows that the mental ages under fourteen years may do good work and have a considerable understanding of the patients under their care.

Summarizing the findings in the three subgroups of Care of Patients, we find that men of higher mental

Table 2: Mental Age and Average Months of Employment During 1936-1939, by Sex, All Ward Personnel Employed by Westboro State Hospital in 1936: Averages in Months.

	TOTAL		MALE		FEMALE	
MENTAL AGE	NUMBER	AVERAGE MONTHS OF EMPLOYMENT	NUMBER	AVERAGE MONTHS OF EMPLOYMENT	NUMBER	AVERAGE MONTHS OF EMPLOYMENT
12 years or less	17	4.1	1	7.5	16	3.9
13 years	22	11.4	7	21.8	15	6.6
14 years	31	7.6	6	8.2	25	7.5
15 years	20	10.5	3	25.5	17	8.0
16 years	18	13.7	6	24.0	12	8.6
17 years	5	10.5	2	21.0	3	3.5
Unknown	27	4.0	12	7.2	15	1.5
TOTAL	140	8.4	37	15.1	103	6.0

Relationship Between Mental Age and Care of Patients

The second main division to be tested in analyzing the relationship between mental age and accomplishment is that of Care of Patients. The three subheadings are: 1, Reaction of Patient to Employee; 2, Interest in Patients' Welfare, and 3, Knowledge of Patients. Each of these subheadings is rated on the same scale of 0, 1 and 2, indicating poor, average and good work. The average scores for the various mental ages in the three items recorded above are presented. In Reaction of Patient to Employee, we find that there is no difference in performance of employees with ratings tend to make better scores in general care of the patients under their supervision. In the women, however, we observe that skill in care of patients does not increase in the mental ages above fourteen years. In women the average score for the twelve and thirteen year mental ages is seven points. From fourteen years up the average is eight points. In the case of the male employees, better care of patients seems to be associated with mental ages above fifteen years. However, the women attendants appear able to give satisfactory care to patients even though their mental ages are not in the higher groupings.

Table 3: Average Mental Age and Average Length of Employment During 1936-1939, by Chronologic Age at Time of Employment, Ward Personnel Employed by Westboro State Hospital in 1936.

CHRONOLOGICAL AGE AT TIME OF EMPLOYMENT	NUMBERS			AVERAGE MENTAL AGE			AVERAGE LENGTH OF EMPLOYMENT IN MONTHS		
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE
18-19 years	45	–	45	14.7	–	14.7	5.8	–	5.8
20-21 years	32	16	16	14.7	14.7	14.7	9.1	11.0	7.3
22-25 years	28	8	20	14.2	14.8	14.0	9.9	14.6	8.1
26-29 years	14	6	8	14.9	16.0	14.3	10.3	15.0	6.9
30-34 years	7	5	2	14.1	14.7	12.9	16.0	20.7	4.5
35-39 years	7	1	6	13.6	13.5	13.6	6.4	36.0	1.5
40 plus	7	1	6	15.5	16.5	15.2	12.2	36.0	8.2
Total	140	37	103						
Average	24.1	25.3	23.7	14.6	14.9	14.5	8.7	15.1	6.4

mental ages of twelve, thirteen or fourteen years. In those aged fifteen years or more, definitely higher averages are encountered. Again, the seventeen year group shows the high score. In the heading Interest in Patients' Welfare we have the surprising finding that all mental ages from twelve to sixteen years are showing about the same average score of 1.4 or 1.5 points. In other words, individuals with mental ages of fourteen years or less are making a surprisingly good showing in being interested in the welfare of patients under their control. This is a very valuable point, as it indicates that satisfactory treatment of patients may be carried out by employees who are not showing particularly high mental ages.

Relationship Between Mental Age and General Traits

The six subgroups included under the third main heading of General Traits are as follows: Loyalty to Hospital, Sense of Responsibility, Punctuality, Health of Employee, Appearance, and Effort or Industriousness. In each of these subgroups the employees of various mental ages are rated as in the preceding main headings. Each is given a rating of 0, 1 or 2, corresponding with performance of poor, average or good work. The different mental age groups are studied separately and averages calculated for performance of all employees in that group.

Under the main heading, General Traits, there are

six subgroups. The first three are Loyalty, Responsibility and Punctuality. The findings with reference to Loyalty are irregular. The mental ages of fourteen, sixteen and seventeen years show the high averages of 1.5, 1.6 and 1.8 points. The mental ages of twelve, thirteen and fifteen are on a somewhat lower level. We may expect a higher degree of loyalty in those with a mental age of sixteen or seventeen years. In the mental ages of fifteen years and under, a somewhat lower performance in this trait is the rule.

In Sense of Responsibility the mental age of twelve years makes the low score of 1.1 points. Mental ages of thirteen and fourteen years are higher with 1.4 points each. Sixteen and seventeen years are higher with averages of 1.6 and 1.7 points. Here we have a fairly high score in the mental ages from thirteen to fifteen years. Employees of these mental ages are doing surprisingly well in reference to this characteristic. In Punctuality, the mental age of twelve years or less shows the low score of 1.3 points. The mental ages from thirteen years up are rather consistent in the findings. The sixteen year group is high with 1.8 points, but the seventeen year group is lower with 1.5 points. In Punctuality, all mental ages above thirteen years make a good showing.

The second group includes average performance in Health of Employee, Appearance, and Effort or Industriousness. In Health of Employee we find that all mental ages from thirteen to sixteen years are making very good scores. The twelve year group and seventeen year group are somewhat lower, the highest group of seventeen years showing the lowest average score. In Appearance of Employee we have an apparent association between a better appearance and the higher mental ages. The low score (1.4 points) is shown by the twelve year group, and the high scores of 2.0 points by both the sixteen and seventeen year groups. In Effort, or Industriousness, the twelve year mental age again shows the low score of 1.1 points. From thirteen to fifteen years there is little difference in the average scores. The high scores are shown by the sixteen and seventeen year groups. As in several other headings, the mental ages of the middle range are making a fairly good showing.

In summing up the findings in the six subgroupings just enumerated, our first observation is that the men are again making a much better score than the women in all mental age groups except one, that of twelve years. In these general traits we find that the men show a fairly high level in all ages from thirteen years upward. In the women, there is a rather gradual rise as mental age increases. This is particularly true between the ages of twelve and sixteen years. The seventeen year group in women shows a slight drop, while in the men the seventeen year group presents the high score of all groupings.

Mental Age and Total Performance

A complete summary of all points scored in the three fields and in the twelve different traits indicates that in two mental age groups only, those of twelve years and sixteen years, do the women show a higher score than the men. In all other mental ages from thirteen to seventeen years, the men show a higher total performance. As mentioned before, the men present a greater irregularity, being high in the thirteen, fifteen and seventeen mental age groups, and somewhat lower in the fourteen and sixteen year groups. However, they present the high average score of forty-one points in the mental age group of seventeen years. In the women there is more consistency in the findings for the different mental ages, the scores being on a somewhat lower level. Women with mental ages of twelve and thirteen years show the same total accomplishment, an average of twenty-five points. The fourteen and fifteen year groups are slightly higher with twenty-nine and twenty-seven points. In women, the mental ages of sixteen years show the high score, a total of thirty-four points. The seventeen year group is slightly lower with an average of thirty-one points.

We note that the high score for the women of thirty-four points in the sixteen year group is surpassed by three mental age groups in the men, those of thirteen years (thirty-five points), fifteen years (thirty-nine points) and seventeen years (forty-one points).

Summary

Men with mental ages from thirteen to seventeen years will show a fairly consistent performance in the duties assigned to ward attendants in a mental hospital. On the whole, the men tend to show a better general performance than the women. In the women, the mental ages of sixteen and seventeen years show a definitely higher performance than mental ages of fifteen years or lower. While it is dangerous to generalize on the basis of such a small sample, it would appear that men with mental ages of thirteen years or higher adjust fairly well to the duties of ward attendant, and are considered as satisfactory by their superiors. However, in women there is a division. Women with mental ages of twelve to fifteen years are more or less on a general level as far as performance is concerned. At this point a break occurs and women with mental ages of sixteen or seventeen years make definitely higher scores.

INDIAN TREATMENT FOR PARALYSIS

HOWARD JONES
Circleville, Ohio

About one hundred and twenty-five years ago a layman, a young man named William Clark, of the Lewis and Clark expedition over the Rocky Mountains to the Pacific Ocean, found among the Indians of the mountains cases of paralysis of various degrees. These cases were both old and recent. His treatment of these cases of paralysis is interesting, especially at this time when the lay and medical press is giving accounts of Sister Kenny's successful treatment of infantile spinal paralysis. I quote the following from Clark's diary.

"We also visited a chief who has for three years past so completely lost the use of his limbs that he lies like

a perfect corpse in whatever position he is placed. Yet he eats heartily, digests his food very well, has a regular pulse, and retains his flesh; in short, were he not somewhat pale from lying so long out of the sun, he might be mistaken for a man in perfect health.

"This disease does not seem to be common; indeed we have seen but three cases of it among the Choponnish who alone are afflicted with it . . . The scrofulous disorders we may readily conjecture to originate in the long confinement to a vegetable diet; which may also perhaps increase the soreness of the eyes; but this strange disease baffles at once our curiosity and our skill. . . . On one of the men (of our expedition) we have ventured an experiment of a very robust nature. He has been sick for some time, but has now recovered his flesh, eats heartily and digests well, but has so great a weakness in his loins that he cannot walk nor even sit upright without extreme pain. . . . One of our hunters mentioned that he had known persons in similar situations restored by violent sweats, and at the request of the patient, we permitted the remedy to be applied. For this purpose, a hole about four feet deep and three feet in diameter was dug in the earth, and heated well by a large fire at the bottom of it. The fire was then taken out, and an arch formed over the hole by means of willow poles and covered with several blankets, so as to make a perfect awning. The patient being stripped naked was seated under this on a bench, with a piece of board for his feet, and with a jug of water we sprinkled the bottom and sides of the hole, so as to keep up as hot a steam as he could bear. After remaining twenty minutes in this situation he was taken out, immediately plunged twice into cold water, and brought back to the hole, where he resumed the vapor bath. During all this time he drank copiously a strong infusion of horse-mint. At the end of three-quarters of an hour he was again withdrawn from the hole, carefully wrapped, and suffered to cool gradually.

"This operation was performed yesterday, and this morning he walked about, and is nearly free from pain. . . . About eleven o'clock a canoe arrived with three Indians, one of whom was a poor creature who had lost the use of his limbs, and for whose recovery the natives seemed very anxious, as he is a chief of considerable rank among them. He complains of no pain in any peculiar limb and therefore we think his disease can not be rheumatic. His limbs would have been more diminished if his disease had been a paralytic affection. . . . We found that he was too weak to sit up, or to be supported in the hole. . . . The Indians who accompanied the chief were so anxious to have the operation of sweating him performed under our inspection, that we determined to gratify them by making a second attempt. The hole was therefore enlarged, and the father of the chief went in with him, and held him in a proper position. The next morning he was able to use his arms and felt better than he had done for many months, and sat up the greater part of the day. The Indian chief is still rapidly recovering. We had intended to repeat the sweating today, but as the weather was cloudy with occasional rain we declined it. This operation though violent, seems highly efficacious; for our own man on whom the experiment was first made is recovering his strength very fast and the restoration of the chief is wonderful. He continued to improve, and on the following day, after a very violent sweating, he was able to move one of his legs and thighs and some of his toes, the fingers and arms being almost entirely restored to their former strength."

War On Venereal Disease

The nation's fight against venereal disease has taken on new vigor. The defense program has increased control problems, but it also is responsible for growing official concern and a mounting public opinion in favor of an all-out war on this scourge of humanity. Emerging is a more comprehensive attack on both syphilis and gonorrhea.

Recent allocation of federal funds already has resulted in the expansion of a number of state programs to utilize advanced methods of control and prevention. This fight calls for the combined experience, techniques and resources of the Public Health Service, the medical branches of the Army and Navy, the Work Projects Administration and state and local health units.

Of these two venereal infections, syphilis is the more dangerous in its after effects and is harder to cure. Gonorrhea is more common, but the recent discovery that the "sulfa" drugs effect swift and certain cures in eighty percent of cases has greatly simplified and made more effective the treatment of this disease.

Under the new program, measures for control of gonorrhea will be placed on a par with those for syphilis for the first time. The same methods of searching out new cases, tracing their sources and breaking the chains of infection will be employed for both diseases.

And in order that this fight against the spirochete—the deadly germ of syphilis, which, if not checked, becomes a crippler of body and mind—might be coordinated with the effort to halt the spread of gonorrhea, and the participating agencies welded into a nationally cohesive yet flexible unit, President Roosevelt recently approved an allocation of $5,015,864 from funds of the Works Projects Administration.

For some time WPA has been furnishing clinics and laboratory aid and a variety of miscellaneous help to health units all over the country. Part of the new fund will be for expansion of this aid, particularly where it is requested because of "boom town" conditions. But a portion of the new funds has been earmarked for experimental development of a plan for venereal disease control that will be adaptable to use in any community wishing to fight the spread of infection.

It is the control phase of the new program that health authorities believe will play a great part in the defeat of syphilis. The medical profession has the knowledge and technique necessary for successful diagnosis and treatment of the disease; the real problem is to uncover new cases, trace their sources and find a successful means to hold all cases under treatment until danger of spreading infection is past.

And as a final, yet immensely important step, the public must be educated to their part in the program. They must be convinced that syphilis is a real menace to the country's well-being, that the fight against the spirochete is distinctly worth while, and that it can be defeated if an intelligent, realistic and amply financed campaign is waged.

Many medical historians believe that syphilis was introduced into Europe by the sailors of Columbus'

crew, who carried it back from the West Indies. Certain it is that the plague spread over Europe during the wars of the early sixteenth century. It reached the shores of America early and has constituted a serious threat to the health of Americans ever since.

In every armed conflict in which the United States engaged, syphilis was a constant problem. In 1812, and in the Civil and Spanish-American Wars, it took its toll. It ran rampant through the civilian population for decade upon decade. By the time of the U. S. entry into the first World War in 1917, syphilis was on the decline in the U. S. Army, due to rigid control methods adopted after the turn of the century.

In the first World War more real opposition to syphilis was staged in the United States Army than ever before. Newton D. Baker, Woodrow Wilson's Secretary of War, appalled at the prevalence of syphilis among those called up for service, procured funds from the Red Cross, and with characteristic action established clinics in twenty-five areas adjacent to cantonments. They were operated for a full year before Congressional appropriates were made available to put the program on a nation-wide basis.

When the awakened government did take note of the seriousness of the situation, state health departments were urged to adopt federal standards which were set up to control the spread of infection. Forty-six states adopted the standards and received allotments from a federal fund of a million dollars.

But the ending of the war brought a sharp reversal. The fight against venereal disease became lost in the license and indifference of the gay twenties. Pursuit of pleasure and money occupied the national mind, and useful legislation, especially if it carried a sizable appropriation, was rescinded. All aid to the states was ended in 1926.

The spirochete was left to wander through the civilian population for ten years. Then, in 1936, a series of magazine articles by Dr. Thomas Parran, now surgeon-general of the U. S. Public Health Service, exploded on the public consciousness. They revealed facts and figures of the ravages of the disease, of the widespread death, suffering and insanity caused by the spirochete, and of the appalling results of the prudery that kept discussion of venereal disease confined to whispers and secrecy. The stories were picked up by the daily press and spread in every town. Within a short time people began to speak of the disease as a problem to be coped with, instead of a subject to be shunned. An alarmed population and government was goaded into steps that finally resulted in federal aid again being extended to the states.

Six months after the appearance of the articles, leaders of medicine and public health gathered in Washington to decide what steps should be taken to stamp out the plague.

A mass of statistics was thrown at the delegates. They were told that there were a half million new cases of syphilis in the country every year; that $31,000,000 was spent each year for care of the syphilitic insane; that deaths from syphilitic heart disease alone totaled 40,000 each year; that experts estimated there were then more than six million cases in the country.

Further, they were told that, at a conservative estimate, only a tenth of the cases were under treatment at any one time; that an unflagging program backed by sufficient funds was essential for control of the disease; that the cost of only one battleship, spread out in a national campaign, could wipe out the disease in the United States, in one generation.

The conference deplored the economic and human waste caused by the disease. They realized that by the expenditure of one dollar in preventive measures, ten dollars would be saved in later costs for care of those disabled by the disease. Thanks to Paul Ehrlich and his epic discovery of the chemical compound that poisons the spirochete but is harmless to man, the medical profession has the means to stop the disease in its tracks. But, despite this, the disease was on the increase. Patient and doctor were not meeting.

The splendid record of the Scandinavian countries was applauded. It was apparent from their success that the spirochete could be beaten if a national program was undertaken. Before they dispersed, the doctors promised that—given sufficient funds and an unremitting program—they could stamp out syphilis as a national menace.

Public enthusiasm for the campaign flared brightly, and has not dimmed. Thanks to Dr. Parran, the dreaded names of the diseases can now be mentioned publicly. The threat of syphilis to the nation's health became a topic of discussion in the states and in Washington. Congress again made federal funds available to the state by passage of the National Venereal Control Act in 1938. Once more the battle was starting.

Local health units that had been fighting a losing battle due to a dearth of funds and physical aid were extended the guidance of the Public Health Service and the help of WPA. Clerks, technicians, nurses, laboratory workers and miscellaneous help were furnished by WPA wherever need for them was indicated.

Several thousand workers were aiding venereal disease projects in many places when the advent of national defense activity increased the problem. Sudden growth of many industries and military camps created many "boom towns" where health facilities were on a small-town scale. Funds became inadequate for overcrowded clinics. Control techniques bogged down.

Promptly a new project was approved to operate on a nationwide basis. Now, wherever military and industrial concentrations of men make the problem acute within a state, health units placed under too heavy a load may call on the Public Health Service for guidance. If the facts warrant, the Public Health Service may, with the assistance of the WPA, expand existing field stations or establish additional control facilities.

It is agreed by syphilologists that almost all cases of syphilis can be cured if treatment is started early enough. The method at present is practically standard, usually taking a minimum of eighteen months. But if lapses occur in the early treatment, the chances of cure diminish. If no treatment is taken until late in the course of the disease, destructive manifestations may appear, then almost all any physician may hope for is an arrest in the progress of the disease. Results of late treatment of syphilis vary widely.

Health authorities agree that if venereal disease is to be stamped out in the United States, the battle must be fought equally well from three angles. Adequate treatment must be provided; sources of infection must be run down, so that the chain of infection may be broken; a system of record keeping, gathering of sta-

tistics and evaluation of results must be established, so that current control of the situation in general and any infected person in particular may be accomplished.

A syphilitic control program that has been in operation in Chicago for four years may be taken for an outstanding example of what a well-conceived plan may accomplish. In the three years ending in June 1940, a reduction of about one-third in the rate of syphilis infection was accomplished. It is out of the experiences of Chicago and those states where the projects are in operation that there will be evolved a plan suitable for use in any community fighting venereal disease.

As a first step in the Chicago campaign, a survey of public opinion was taken by mailing out a million and a half letters to residents, asking if they and their families would be willing to submit to a blood test given by their private physician or a public health doctor.

A gratifying response was received, and through a further arousal of public interest through cooperation of newspapers, radio stations and the use of lecturers, more than a million persons submitted to blood tests in three years. Group tests were taken in schools, stores, factories and restaurants. Some forty public blood testing stations were set up. Hundreds of new cases were discovered and brought to treatment, and Chicago was rewarded by the large drop in the rate of prevalence. This program was sponsored by a coalition of city, county and state health units and carried out with the assistance of WPA.

With a central registry containing the names of every person known to be infected, and utilizing investigation units which tactfully trace the sources of infection and follow up on treatment, such a control program can be very effective.

It is upon such a plan that the new state projects will operate. Local programs will be adapted to prevailing conditions, but the basic idea, to find cases and treat them until danger of infecting others is past, will be stressed everywhere.

Prevalence of infection among those called up for selective service received notice from President Roosevelt in a recent press conference, with suggestion from high authority that a program of rehabilitation should be undertaken among those rejected for service on this account. Infected selectees will be prevailed upon to go to a private physician if they can afford to pay for treatment, or to public clinics if circumstances demand, until the infection clears sufficiently for them to be acceptable for military service.

A part of the new WPA fund will be used to aid research in new techniques for treating syphilis. In California, under the supervision of the state department of health, and with the assistance of the state medical schools, there is starting a series of experiments to test the effectiveness of a new, five-day, low-cost treatment. Qualified persons from the rolls of WPA will be employed to assist in routine duties and in keeping records connected with the experiments.

The new technique is a development of Dr. Harold Thomas Hyman and Dr. Louis Chargin, of Mt. Sinai Hospital, New York. It is based on Dr. Hyman's "speed shock" theory, which holds that the speed with which chemicals are introduced into the blood is all important. Under present methods of treatment, injections of necessary compounds are made weekly.

The new method makes use of the assumption that the same amount of chemicals may be injected in five days of continuous treatment, as is put in the veins in 18 months of weekly treatment, provided it is put in slowly enough, and is handled by an expert. The new technique, as now developed, is to put the patient to bed, insert a hollow needle in a vein, connect the needle with a jar of the needed solution and let it into the vein a drop at a time.

So far, the treatment has been found effective only in the early stages of syphilis, but the new experiments may disclose greater results and refinements of technique. Gonorrhea is many times more prevalent than syphilis. This is amply proved by statistics of the Army, where it is the chief cause of loss of time from the ranks.

Because the "sulfa" drugs, especially sulfathiazole, cure about eighty percent of gonorrhea cases, when administered by a physician, they are regarded as the first effective, mass cure for the disease. Due to the speed and effectiveness of this drug, the fight to prevent the spread of gonorrhea will therefore be fought mostly along the lines of tracing infection, and educating persons in the proper use of prophylactic measures.

Commercial prostitution has always been regarded as the greatest single source of venereal disease. Reports that prostitution has increased around military establishments resulted in a statute being placed on the books that enables military authorities to invoke the same prohibitions to prostitution as were used in the first World War.

Under the May Act, signed by President Roosevelt in 1940, the Secretaries of War and Navy are empowered, entirely within their own discretion, to declare zones around military areas in which prostitution will be forbidden. The local authorities who have heretofore winked at prostitution within their bailiwicks may now be circumvented, should military authorities fully invoke their legal rights.

The field of venereal disease prevention and control is broader than the mere elimination of prostitution, however. Venereologists are wont to point out this fact, along with the statement that venereal germs are no respectors of persons. The socialite may acquire syphilis as well as the person born on the wrong side of the railroad tracks. It is often acquired innocently, and many persons who believe they are free of infection are amazed when a blood test discloses the presence of the spirochete.

The adage that an ounce of prevention is worth a pound of cure is doubly true where syphilis is concerned. The medical profession is beginning to insist that everyone should have a blood test at regular intervals, as it is cheap insurance against a number of things that could happen.

So, with a constant light of publicity on the worth of prevention and the results of neglect, the Public Health Service, assisted largely by WPA funds, is working wholeheartedly with local health units and with the Army and Navy medical corps, and it is hopeful that the new campaign may go a long way toward eradication of venereal disease. It will take time and money and unremitting vigilance to drive this scourge to oblivion. But the government is committed to the program, the medical profession is ready, and they are agreed that venereal disease can be eradicated.

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THE PSYCHOPATH IN GASTROENTEROLOGY

ANTHONY BASSLER

New York, N. Y.

In the last few years a large amount of psychiatric literature has flooded the medical profession. In practically every specialty papers are being read and articles published depicting the importance of a "psychiatric approach" or "analysis" of the patient on hand. The importance of the "person who has the disease", or the personality of the individual who has a disease is being stressed. Much of this literature has taken hold of the profession, for weal when the attending physician is level-headed in judgment, and for woe when he is a poor clinician or too busy for detailed effort in his work.

What many psychiatric writers do not seem to understand sufficiently is that a doctor of good quality is always interested and generally quite aware of the personality make-up of his patients and he needs no "psychological approach" or "analyses" to understand them and needs little more than common sense to correct almost all of them. With such a physician a little more time out from his busy life, some wise counsel and advice and they are eased toward correction in comparatively simple ways. In the physician who feels that a psychological study in an expert sense is often required, the tendency is for him to put an unwarranted significance on the nervous and mental aspects of complaints and less and less on really somatic disorders. In the latter type, even when done with the faculties comprised in circumspection, the average person is impressed and satisfied for the time being, and, a real illness continuing, someone else gets the credit of a real benefit and cure, which is seldom another psychiatrist or any other type of mental therapeutics.

In no field of medicine are nervous phenomena more often met with than in the abdominal field. There is hardly a disorder in which more or less neurotic phenomena do not occur, this being more or less true also with complaints in all parts of the body. A real illness will commonly bring out a neurosis in disorders which belong throughout all departments of medicine, a nervous result that disappears when health is sufficiently restored. Obviously the treatment for the neurosis here would be that of the somatic state, including the aftermaths. Then, there are not a few disorders which are classified as functional, such as nervous indigestion, spastic states, irritable colons, colitis, etc. Just because no etiology has been elicited for them, it does not follow that they are due to emotional factors only. Nor do they warrant the assumption that these patients "are primarily psychologically conditioned", that such emotional states "may play a significant rôle in bringing about actual structural change and tissue damage", or that "no surgery should ever be undertaken in the hope of relieving some functional disorder without a complete preliminary psychiatric examination and evaluation" (1). So strongly is the psychiatric cause being accepted that even completely somatic disorders, like gastroduodenal ulcer and ulcerative colitis, are considered by some as psychosomatic conditions.

One may agree that strong emotions may cause physiological dysfunctions, and that repressed emotional conflicts are bound up in psychosomatic ways. We all meet with cases that prove this. But what is not receiving sufficient attention by many men in medicine, and by psychiatrists is that in the vast majority of these there is a somatic cause which when corrected flattens the nervous complement into nothingness. Kennedy (2) is correct when he stated, "There has been a tendency among psychiatrists in the recent past to ignore the primitive consciousness that exists as purpose in every living cell and to ignore the cellular pattern of man and to treat the mind as though it were Mohammed's coffin, swung in the empyrean between earth and heaven, having neither structure nor fabric."

Disregarding the commonly encountered cases that present easily corrected "emotional" phenomena, a study of fifty cases was made, in which the patients had had sanitaria and psychiatric experiences. These were all instances of persons who came under observation for gastrointestinal conditions, conditions that had existed for varying lengths of time, and for which psychiatric types of handling had been engaged in for their correction without much result. Among these patients there were nine in whom it was manifest that an actual mental condition existed, a condition in which it seemed obvious that the treatment of any somatic disorder would accomplish but little.

In these nine cases there were two manic depressive psychoses, two schizophrenias, one conversion hysteria, one involutional melancholia and three pronounced psychopaths. The distinct insanities need not be presented here. They are manifest in themselves, but the three psychopaths deserve gastroenterological attention

because lesser degrees of this condition tincture somewhat the routine of work.

A psychotic individual is liable to come under any medical man's observation, and unless this more or less basic type of insane person is spotted, discouragement and unhappiness are the result. Psychosis, like every other human disorder, is not only a condition, a state of mind, but is a real psychophysiological process. This process is rarely checked by contrary factors, and is a definite mental disorder and one that is liable to culminate in a condition of dementia. When these patients come to the medical man their symptoms are incomplete and masked and not always obvious, yet they all display suggestions of incapability of general subjective representation of the external world. Their ability to form perceptions are modified and they represent a type of patient who seems to some degree imprisoned in a mental world which contains uncoordinated and diminished sensations.

In these patients, who are short of dementia and may never arrive at it, just carry on as fundamentally "queer", the gastroenterologist must watch very carefully for some degree of unresponsiveness and other signs of subjective seclusion from reality—a sort of barrier between the individual and the environment. Many of these people are exceedingly fascinating personally, intelligent and accomplished, probably due to overstimulation of the highest nervous centers, yet they live a secluded life in which interests and perceptions of things inside themselves are modified. Their attitudes toward their complaints are intense and continued and in these they resemble the simple neurotics. Being reduced in consciousness, they sort of dream along, deadened in physiological rhythms, and display an inability to awaken an interest from environmental stimulation, such as awakens a sane person from normal sleep. This reduction of the consciousness releases all sorts of stimuli and irregularities from the sensory and motor centers, and about every kind of abdominal disorder and disease is simulated in the complaint. While consciousness may be considerably reduced through organic causes, in these patients it is well to keep in mind that satisfactory cure is practically impossible to bring about by the treatment of an organic condition. A short psychotic state accompanying a definite illness is one thing, but the continued psychotic individual who comes under observation with abdominal complaint (unless it be a definite condition like carcinoma, gallstones, symptoms caused by intestinal obstruction) had best awaken no enthusiasm or interest on the part of the medical man. One may cure these patients of disease but they go on complaining just the same. Thus a gastroenterologist should be able to spot such individuals quickly, and refer them to a psychiatrist at once.

Of the forty-one persons who had received institutional and psychiatric handling, nineteen showed the presence of organic disease (malignancies included), and in twenty-two this was not possible to diagnose. Thirty-seven of the patients had one of the several forms of biotoxic intestinal disorders, and confining this article to the group that showed no definite disease, the results in the gastroenterological handling of them, so far as their nervous states were concerned, were most interesting. Of these twenty-two cases there were seventeen of the acid fermentative type due to anaerobes which Herter (3) drew attention to years ago, and five in which a mixed form of toxemia existed. These were treated by diets, routine, constructive tonic measures, and biological handling (4). In these twenty-two cases, nineteen showed a marked improvement in the nervous as well as the abdominal condition. In the three remaining patients this may be mentioned as of distinct benefit.

Conclusions

In the average abdominal case with "personality" symptoms, a little extra time and advice along the lines of common sense are all that is required for satisfactory handling. Every gastroenterologist and medical man should have sufficient keenness to spot the really psychotic individual however incompletely this may be manifested, and to appreciate that, whatever the situation, he can accomplish but little in them.

Chronic biotoxic intestinal conditions are important in disturbing cell function and bringing about morbid behavior and morbid emotional states. The "purpose" of the living cell, its specialization, layer upon layer, supersegment upon supersegment, complicated intincts, complex emotional tones and feelings, and the integrations and channels through the thalamus and hypothalamus is a very sensitively coordinated maze, and a chronic toxic gut condition can and does upset it so as to produce "emotional" or "personality" irregularities in persons who without them would be mentally normal.

In the absence of organic disease, psychotic and insane states, every disturbed emotional or personality case, whether presenting abdominal symptoms or not (and especially those that have), should have a careful bacterial and chemical study of the digestive tract before being considered to be a psychiatric problem.

The basis of much of the psychiatric practice today is still fundamentally a matter of somatic and not mental medicine, and the most important source for these disturbances is in the intestinal canal.

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Medical Treatment of Peptic Ulcer

B. Boggian, in a discussion of the medical treatment of peptic ulcer, especially with folliculin and ascorbic acid (*Gasc. d. osp.* 60:839, 1939; abst. *Presse méd.* 48:30, 1940), reports that fifteen cases of gastroduodenal ulcer were treated with, 1, folliculin in oil (ten thousand units every three days, ten to twenty intramuscular injections); 2, ascorbic acid (one hundred mg. every three days, thirteen to thirty injections); 3, sodium benzoate (0.75 gm. usually every day, for twenty to forty days); or with combinations of these three regimens. Folliculin is given first place in the treatment of gastroduodenal ulcer on account of its cicatrizing properties, but the three remedies used concurrently give better results than when any one is used separately. Of thirteen duodenal ulcers, eight were cured and five improved, and both of two cases of gastric ulcer were cured.

BOSTON MEDICAL

CLINICAL STUDIES ON THE URINARY EXCRETION OF THE BISULFITE BINDING SUBSTANCES*

SAMUEL WEISS and MAXIMILIAN FABRYKANT
New York, N. Y.

It is now a well established fact that vitamin B_1 plays an important rôle in the metabolism of carbohydrates. In yeast, the conversion of the pyruvic acid which is an intermediary in the carbohydrate metabolism into acetaldehyde requires the presence of a carboxylase (Neuberg) and a co-carboxylase (Stepp and Behrens, Auhagen). This latter was identified by Lohman and Schuster in 1937 as vitamin B_1 pyrophosphoric acid. Peters (1) has shown that in animals lacking vitamin B_1 there is a disturbance in the carbohydrate metabolism. He found in the brain tissue from thiamin deficient pigeons and rats unusual amounts of lactic and pyruvic acid.

These important findings have led to the conception that the study of the pyruvic acid in body tissues and fluids may be helpful in detecting thiamin deficiency states. The following experimental and clinical observations seem to substantiate this conception.

Thompson and Johnson (2), and Johnson (3) found increased amounts of pyruvic acid in the blood of B_1 avitaminotic pigeons and rats, and Platt and Lu (4) found similar conditions in the blood of acute fulminating beriberi patients in the Orient. Sherman and Elvehjem (5) demonstrated that the removal of injected pyruvate is slower in polyneuritic chicks than in normal birds.

The determination of pyruvic acid in biological fluids is generally carried out indirectly by the measurements of bisulfite binding substances (BBS) that is, the keto-acids and aldehydes which are apt to bind the bisulfite. Aside from pyruvic acid, the BBS include acetaldehyde, methylglyoxal, glyceryladehyde, dihydroxyacetone, etc. Thompson (2) and Johnson (3), have shown that in experimental thiamin deficiency in pigeons, almost all of the BBS contained in the blood corresponds to pyruvic acid, while Platt and Lu (4, 6) have found that in some cases of human beriberi, only a fraction of the increased BBS content of the blood may be accounted for by the increase in the pyruvic acid level. Similar observations have been made by Wilkins, Weiss and Taylor (7) in normal subjects who received intravenous injections of pyruvates. The increase in pyruvic acid accounted for only 44.5 percent of the increase in BBS.

Other clinical observations add to the confusion. The blood BBS remain normal in subacute beriberi as well as in the dry atrophic type of the disease (Platt and Lu [4, 6]), and also in human subjects kept for experimental purposes on low thiamin diets (Williams, Mason and Smith (8), Elsom, Lukens, Montgomery and Jonas (9), Robinson, Melnick and Field (10). On the other hand, many conditions not directly related to vitamin B_1 deficiency may be associated with a high blood content of BBS. Wilkins, Taylor and Weiss (11) found increased blood BBS in heart disease, unregulated diabetes, vascular nephritis, pneumonia, febrile diseases, terminal uremia, pancreatitis, pernicious vomiting.

These contradictory results cannot satisfactorily be explained as long as we lack insight into the interrelationship of the pyruvic acid and the BBS as measured en bloc. In this respect highly significant are the studies of Wilkins, Weiss and Taylor (7) on the rapid conversion of added pyruvic acid into other ketonic substances by blood, in vivo as well as in vitro, the studies of Lu and Needham (12) on the fate of injected pyruvate and also the previous observations of Geiger and Rosenberg (13) which show that methylglyoxal added to blood in vitro cannot be recovered.

Few data are available on the urinary BBS. Pi Suner and Farran reported in 1932 (14a) on the presence of methylglyoxal in the human urine, and in 1936 (14b) they recorded the presence of pyruvic acid in the urine of compensated diabetics without glycosuria and ketonuria. As regards thiamin deficiency, Geiger and Rosenberg (13) found methylglyoxal in the urine of dogs deficient in vitamins; Gruenfelder, Rabinovici, Geiger and Rosenberg (15), in Palestine, in the urine of children suffering from summer toxicosis with digestive disorders which they attribute to vitamin B_1 deficiency and which responded to thiamin treatment. The observations of Gruenfelder et al, have been confirmed by Popoviciu and Munteanu (16). In polyneuritic chicks, Sherman and Elvehjem (5) observed high urinary and fecal BBS content despite normal blood BBS level, and Platt and Lu (4) found unusually large amounts of methylglyoxal and pyruvic acid in the urine of beriberi patients in whom the pyruvic acid in blood and cerebrospinal fluid was low. Banerji and Harris (17) and Shils, Day and McCollum (18a) found elevated BBS excretion in B_1 deficient rats. Banerji and Harris have also shown that the output of BBS in the animals increased proportionately to the degree of the thiamin deficiency. They were able to detect cases of mild deficiency by administering sodium lactate which has the effect of increasing the BBS output in deficient animals, but has no effect upon healthy animals. Banerji and Harris also mention three unpublished observations of Wang and Yudkin on experimental human thiamin deficiency associated with marked changes in the urinary BBS. It was noted that after one week of a diet deficient in vitamin B_1 the values were three to four times the initial values.

The excretion of BBS may also be influenced by other factors. Following the observations of Johnson and Edwards (1937) (19) on the increase in the blood and urinary pyruvic acid in normal subjects after strenuous exercise, Lu and Platt (1939) (20) found a rise in urinary pyruvic acid and BBS in normal and beriberi subjects after excessive muscular work. There again the increase in BBS was greater than could be accounted for by the increase in the pyruvic acid alone. Banerji (21) reported that rats kept on thiamin deficient diets, but receiving a high proportion of fat show no increase in urinary BBS. Shils, Day and McCollum (18a, b) also working with rats, used less fat which was substituted for sucrose in the thiamin deficient diet; the urinary BBS remained elevated but

*With the technical assistance of Helen R. Weinberg, B.A.

the levels were less than on carbohydrate diet. These observations conform to the conception of vitamin B_1 sparing action of fats Evans and Lepkovsky (1928) (22). In addition, Shils, Day and McCollum (18b) noted that in rats the quantity of food intake influences the output of BBS and pyruvic acid. Banerji and Harris have demonstrated the effect of ingested carbohydrate upon the urinary BBS. The intervention of various other factors can also be assumed in view of the interrelationship of blood pyruvic acid on one side and blood sugar and lactic acid levels on the other (Meyer, 1912, Lu and Needham 1939) (12).

tributed, by an ophthalmologist, to a pigmentation due to some form of avitaminosis.

No. 6: Female, thirty-one years old—ptosis, low blood pressure (110-65), general weakness.

No. 7: Male, fifty-five years old—eczematous skin condition associated with functional disturbance of the liver (blood urobilin 2.4 mg.) and C hypovitaminosis. Received, between January 13th and 24th, 20,000 units of thiamin chloride (B_1) and 12,000 units of vitamin C subcutaneously.

The urine was collected every two hours during the day, and then from 11 p. m to the next morning.

Table 1

Subject	Date 1941	BBS in 2 hour samples during day: Mg. of BBS in 100 c.c. urine	Absolute amounts of BBS in mg.	Mg. BBS excreted: During day	During night	In 24 hours	Percent of night excretion
No. 1a	February 2	11.32 - 39.6	8.32 - 38.15	226.1	72.6	298.7	24.31
b	March 3	6.00 - 3.0	12.00 - 27.84	126.24	40.26	166.55	24.17
c	March 26	18.42 - 28.38	16.83 - 53.22	250.6	127.33	377.93	33.69
No. 2a	March 4	10.00 - 44.0	9.68 - 38.5	220.84	118.8	339.64	34.98
b	March 25	11.00 - 26.4	7.08 - 19.25	102.97	41.02	143.99	28.49
No. 3	February 24	11.00 - 49.28*		231.99	61.6	293.59	20.98
No. 4	March 3	12.32 - 49.28	12.32 - 49.28	273.76	17.82	291.58	6.11
No. 5	March 28	4.4 - 27.4*		220.8	69.74	290.54	24.00
No. 6	April 4	7.48 - 38.28	10.31 - 22.96	125.08	102.3	227.38	45.03
No. 7	April 8	18.00 - 40.92	4.7 - 30.49	146.7	82.4	208.94	39.36

*Samples collected in more than two hours.

The lack of more complete reports on the excretion of BBS under normal and pathological conditions and contradictory data with regard to the blood BBS in various diseases, induced us to investigate the normal excretion of BBS as a preliminary step to a further study of this problem.

Experimental methods: The method used for the determination of urinary BBS is that of Banerji and Harris (1939).

We have studied seven subjects, two of them on several occasions. All subjects were following their normal diets. The two subjects examined on several days, followed the same diet on all tests days. The same applied to the physical effort.

Clinical Data

Among our patients were two women, both thirty-one years of age and five men whose ages ranged from forty to seventy-one years.

Diagnosis.—No. 1: Male, seventy-one years old—hypertension.

No. 2: Male, fifty-seven years old—nervousness, arcus senilis.

No. 3: Female, thirty-one years old—urticaria, neurasthenia, ptosis. Ten thousand units of thiamin chloride were administered subcutaneously between the 2nd and 17th of January.

No. 4: Male, forty-two years old—umbilical hernia, spastic colon (four to five stools a day), nervousness.

No. 5: Male, forty years old—cholecystitis, postgonorrheal prostatitis, chronic alcoholism. Recently complains of a "spot in the right eye" which was at-

Results

Table 1 shows that the total output of BBS for the twenty-four hour period in our patients ranged from 143.99 mg. to 377.93 mg. These figures seem rather high. Banerji and Harris mention as normal 140 to 190 mg., but no detailed data are found in their papers. Our observations (Table 1) are interesting in that they reveal marked daily fluctuations of the total output of BBS in a patient examined on different days, the experimental conditions (food, physical effort) remaining unchanged. On one occasion the patient excreted 166 mg. which may be considered as normal according to Banerji and Harris, yet sixteen days previously the BBS output reached the high level of 298.7 mg. and still higher, namely 318 mg., twenty days later. Similarly, patient No. 2 first showed a high BBS output (339.64 mg.), but twenty-one days later without any change of conditions his BBS excretion dropped to 143.99 mg., which is considered normal by Banerji and Harris. The implication of these observations will be discussed later on.

The range of values of the excretion during the night was 6, 11 and 43.03 percent of the total output, with an average of 28.11 percent.

The BBS concentration in the urine in two hours samples collected during the day amounted to from 6 to 49.28 mg. percent. The absolute amounts excreted in the same samples ranged between 5.7 mg. to 53.22 mg. per two hours. No relationship could be detected between these figures and the total output of BBS during the day, the night or the twenty-four hour period.

Table 2 exemplifies fluctuations of the BBS output

during the day in two patients. (Similar results were obtained in all other patients.) The fluctuations were of no typical character, neither was there any definite relation to the time of food intake or of physical effort. The same table also shows that the BBS excretion bears no relation to the volume, especific gravity or pH of urine.

Table 2: Fluctuation of BBS in Output in Twenty-four Hour Period

Hours	Vol. of urine in cc.	pH	Sp. gr.	Absolute amounts of BBS in mg.
7-9 a. m.	a - 63	5.5	1015	8.32
	b - 130	7.5	1018	31.46
9-11	a - 79	5.5	1012	22.59
	b - 115	6.7	1017	33.9
11-1 p. m.	a - 240	6.2	1007	31.68
	b - 64	5.5	1024	23.94
1-3	a - 120	6.3	1006	23.76
	b - 125	6.0	1020	31.9
3-5	a - 125	6.0	1013	33.0
	b - 97	5.9	1023	29.02
5-7	a - 102	5.7	1013	38.15
	b - 22	5.1	qns	9.68
7-9	a - 106	5.2	1017	37.31
	b - 55	5.0	1025	28.5
9-11	a - 53*	5.4	1022	20.99
	b - 60	5.5	1025	22.44
11-7 a. m.	a - 275	6.0	1016	72.6
	b - 300	5.0	1022	118.8

a: patient No. 1a in table 1; breakfast at 8 a.m., lunch at 12 noon, dinner at 6:30 p.m.
b: patient No. 2 in table 1; breakfast at 8 a.m., lunch at 12 noon, dinner at 6 p.m.
*Part of his urine was lost.

Table 3 represents two examples of estimation of BBS in urine standing several days in the laboratory. The results (in sample B) reveal that the BBS content of the urine falls gradually and very markedly until a stable value is reached. If, however, the urine is first acidified to the pH ranging from 2 to 4, and then left standing, (sample A), no decrease in BBS is noted.

Table 3

Sample A (acidified)		*Sample B (nonacidified)*		
Date 1941	BBS in mg. percent	Date 1941	BBS in mg. percent	pH
Feb. 17	19.8	Mar. 4	39.6	5
Feb. 24	19.8	Mar. 6	8.8	5.5
Mar. 2	19.8	Mar. 25	8.8	5.5

From the practical point of view these observations show that the urine may be preserved for BBS determinations by changing the pH to 2 to 4. Moreover, it raises the question as to what fraction of BBS decreases in a nonacidified urine, and what fraction remains unchanged in spite of the decrease in total BBS, and also as to what factors intervene in the observed phenomenon.

The previously mentioned observations in patients 1 and 2 with regard to fluctuations in the total excretion of BBS in the twenty-four hour period indicate that no constant values for urinary BBS can be recorded. It therefore becomes apparent that urinary BBS estimation as well as loading tests such as suggested by Banerji and Harris and also by Wang and Yudkin are of no value for the detection of vitamin B_1 deficiency. An important increase in the BBS output may take place for yet undetermined reasons. It could be falsely interpreted as a result of the loading and consequently lead to an erroneous diagnosis of nonmanifest or mild thiamin deficiency.

Conclusions

Fluctations of the urinary BBS in man during the day show no typical character.

Urinary excretion of BBS in twenty-four hour period represents no constant value.

There is no relationship between the urinary BBS on one side and the volume, specific gravity or pH of the urine on the other.

The fluctuations of the urinary output of BBS in man render dubious the value of urinary BBS estimation (with or without loading) for the detection of vitamin B_1 deficiency states in human beings.

BBS may be preserved in a urine kept at pH 2 to 4.

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CANCER OF THE COLON—A DIAGNOSTIC PROBLEM*

MAX J. SCHROEDER
New York, N. Y.

A cardinal dogma appreciated in the study and practice of medicine is to the effect that every malady so signals and notifies its host as for man to take means and measures to combat the offending substance whether it be virus, bacilli, spirilli, parasite, or whatever else. When one deals with malignancies, however, it is essential to disseminate the knowledge gained by experience to the effect that most malignancies, whether of the kidney, pancreas, stomach or colon, usually are silent in their early stages.

The first case to be presented well illustrates this point. The subsequent cases illustrate how malignancies are dormant within the body until they interfere with normal physiology; as in the case showing onset with intestinal obstruction, or a sudden give of a blood vessel throwing the patient into shock as the initial symptoms of malignancy. Then, cases may lead the clinician to believe that he is dealing with other clinical entities, as, for instance, gallbladder pathology, ulcerative colitis, etc. Then again, the accidental discoveries that upon close questioning and physical study reveal the offending lesion.

Periodic physical examinations are shown to be a great help in runing down the early malignancies. It will also be revealed that we must not depend upon one or two physical measures alone, but utilize all possible physical means to arrive at a diagnosis. Another point these cases will bring home is the fact, impressed upon us any number of times but worthy of repeating, that the patient may be ill of two different entities at the same time.

Case Reports

CASE I.—Mrs. M. B., sixty-five years of age, presented herself to the office complaining of pruritus vulvæ. In the course of a complete examination the abdomen presented a very insignificant mass the size of a peach, in the left lower quadrant. Upon close questioning the patient admitted a slight weight loss and a somewhat greater degree of constipation than heretofore. Before questioning the patient these significant symptoms were not given the slightest thought. X ray studies revealed an annular defect at the rectosigmoidal junction. The patient was successfully operated upon.

Case II.—This case illustrates an interesting problem in the differential diagnosis of shock. The patient, N. S., a woman fifty-six years of age, suddenly went into collapse during a bowel movement. Arriving at the bedside, the story obtained was as follows: The patient had been perfectly well up to the time of this bowel evacuation. During this movement, she noticed a little blood in the stools, and experienced a sharp abdominal pain and fainted. Upon examination, it appeared that the patient was in partial collapse. The abdomen presented a vague sense of resistance in its lower half. She refused hospitalization at the time because her son was being married the next day. A week later, however, she did come into the hospital and barium enema revealed a defect in the sigmoid. This, at a successful operation, proved to be malignancy. Later, upon questioning, she yielded a history of some constipation for a long period of years but more so in the past three months.

CASE III.—This is another interesting case which is worthy of your attention. It is a case of cancer of the colon that was treated as ulcerative colitis for two and one-half years. I spoke to the man who treated this patient. (By the way, he is an excellent clinician and a man who has devoted most of his efforts to the study of gastrointestinal lesions.) It appears that the reason this case was overlooked was because the presence of diarrhea, the feces being typical of ulcerative colitis, and proctoscopic studies revealed ulcerations supposed to have been characteristic of ulcerative colitis. Barium enema studies were most of the time unsuccessful as they did not allow the passage of barium high enough properly to delineate the colon. The patient finally

*Read before the East Side Clinical Society, Inc., December 11, 1941.

changed physicians, was operated upon and malignancy of the colon was found.

CASE IV.—In this case the malignancy was not recognized because an associated cardiac condition was so blended with the entire clinical picture that the patient was treated for the cardiac condition only and the cancer of the colon was entirely overlooked. The patient a man, seventy years of age, gave a cardiac history for the past ten years' decompensation on a coronary basis. His hemoglobin was about twenty-two percent, blood count 2,225,000. While the liver was palpable, underneath it a slight mass was discovered. A barium enema revealed a definite defect in the hepatic flexure, probably of malignant origin.

CASE V.—This is another interesting case which illustrates the fallacy of depending entirely upon clinical data and history alone. The patient, J. S., a woman, sixty-three years of age, gave a history of an old gallbladder pathology and it now appeared that there had recently been exacerbation of this condition. The patient complained of pain in the right upper quadrant, and this region was somewhat tender. For six weeks she had been treated by a competent clinician as a gallbladder case. When she was x rayed a defect was seen in the hepatic flexure.

A successful operation proved the lesion to be a malignancy.

CASE VI.—This case illustrates how essential it is to pay close attention to a history of constipation. The patient, C. F., a man, fifty-six years of age, gave a history of a sudden onset of vaguely localized but sharp abdominal pains. At the time prior to diagnosis, everything had to be considered even diverticulitis, intestinal obstruction and left sided appendicitis. Barium enema was negative, yet a rectal examination revealed a mass. Operation proved the case to be cancer of the rectum. In retrospect the only outstanding symptom was constipation prior to the acute episode. The patient paid no attention to more severe constipation for he was always constipated.

Summary

In conclusion, allow me to summarize. While nothing new concerning cancer of the colon has been presented, it is worthy of repetition because of the frequency of the condition, constituting almost an everyday problem in the realm of the practice of medicine.

1. In the differential diagnosis of intestinal obstruction, we are cautioned to bear in mind the possibility of malignancy, especially in those past middle age.
2. Do not be misled by a malignancy of the hepatic flexure that may simulate a gallbladder picture.
3. In looking after a patient for one chronic condition or another, cancer may appear on the scene, unnoticed.
4. We have also seen increase in constipation, if present, as a common symptom in most cases.
5. We have seen how the primary symptoms of malignancy may be ushered in as an acute phase as shock, or as intestinal obstruction.
6. Be on the lookout in the differential diagnosis of ulcerative colitis and cancer of colon.
7. Note how cancer of colon may be absolutely silent and only accidentally discovered.
8. Beware; the x ray may fail where the finger may tell the story.
9. Do not depend upon one particular method of diagnosis.
10. Use all ways and means, as history, examination, rectal examination, proctoscope, x ray, all possible means, a combination of all fact finding points.
11. Always *think* of malignancy, even though there is nothing leading in the history or appearance to suspect it.

319 EAST SIXTH STREET

PERITONEAL ASPIRATION AS AN AID IN THE DIAGNOSIS OF ACUTE ABDOMINAL CONDITIONS

HARRY PIKE
New York, N. Y.

Peritoneal aspiration was first proposed in 1906 by Solomon, and has apparently not been employed to any great extent in this country. Denzen refers to it in an article published in 1920, and a report by Neuhof and Cohen appeared in 1926.

In the group of cases in which the diagnosis of peritonitis appears obvious from the history, clinical manifestations, and physical findings, peritoneal aspiration is of value in differentiating peritonitis of appendicular origin from other types, such as streptococcus, pneumococcus and gonococcus peritonitis, in which surgery is contraindicated. Surgery performed in such cases is followed by serious consequences.

In children, where a history is not readily obtained and extreme difficulty is encountered in examination of the abdomen, or interpreting the physical findings, peritoneal aspiration is of extreme value.

Technique of Peritoneal Aspirations

The method is simple, and findings must be interpreted carefully. The site of puncture is just below the level of the umbilicus, either lateral to the right rectus, or through it. The skin is first cleansed carefully with benzene, followed by ether, and painted with iodine or metaphen. The skin is then injected with one percent novocaine at a point below the umbilicus. The abdominal wall, beneath the skin wheal, is injected down to the parietal peritoneum. An 18 gauge needle with its stylet in place is introduced into the wheal, gently advancing the needle through the abdominal wall. As the needle goes through the peritoneum, there is a distinct 'give'. The stylet is withdrawn, and a 10 cc. syringe is attached, suction is made and the needle is pointed in several directions.

If no fluid is obtained at suction, sometimes a drop

or two may be aspirated while withdrawing slowly. The aspirated fluid is spread on a glass slide, fixed, and stained by the Gram method. Even if a drop of blood is in the needle, it would be sufficient to examine this and make a diagnosis.

Some authors are afraid to use this procedure on account of the danger of piercing the intestine. If the needle is carefully inserted into the abdomen, the danger is nil. Only when the gut is fixed can such an accident occur. If aspiration is performed with a stylet fully in the needle, this accident should not occur. Microscopical interpretation of aspiration is important. The character of fluid, and not the amount is important, and the microscopical findings, together with the history, are most important.

Value of Method in Differential Diagnosis

The method is not infallible and the interpretation at times may be difficult. In cases where the clinical and physical findings are characteristic of acute appendicitis, a negative peritoneal aspiration rules out the diagnosis of diffuse peritonitis, but does not exclude the diagnosis of acute appendicitis with or without local peritoneal involvement.

On the other hand, if, on the basis of the clinical findings, the decision has been made to operate, the negative peritoneal aspiration should in no way contraindicate operation.

Under similar circumstances, the aspirated fluid containing polymorphonuclear leucocytes is compatible with the diagnosis of acute appendicitis with early involvement of the peritoneum. Sometimes localized or diffused peritonitis may be determined at once by performing a second aspiration left of the median line. If, for example, aspiration left of the midline yields fluid containing polymorphonuclear leucocytes, but no organisms, an aspiration of the left lower quadrant is negative, and yields a small amount of clear fluid, an accurate indication of the degree of peritoneal infection is obtained, and operative indications may be decided according to the practice of the surgeon.

In a group of cases in which a diagnosis of peritonitis appears evident from the history, clinical manifestations and physical examinations, peritoneal aspiration is of extreme value in differentiating peritonitis of appendiceal origin from peritonitis of other types.

Streptococcus, pneumococcus, and gonococcus peritonitis serve as classical examples of peritonitis in which surgery is contraindicated, and if performed, may be followed by disastrous results. In dealing with peritonitis in children, although an accurate history may be obtained from a parent, difficulties may be encountered in examining the abdomen or interpreting physical findings. In such cases, peritoneal aspiration is of extreme value.

Summary

The findings by aspiration in peritonitis of appendiceal origin are a definite indication for surgery and in cases of frank peritonitis, the findings by aspiration of polymorphonuclear leucocytes and large numbers of streptococci, indicate streptococcus peritonitis. In such cases a large amount of fluid is found by aspiration. A review of the history reveals some septic focus in the upper respiratory tract. Only in rare cases do we find polymorphonuclear leucocytes in streptococci, in cases of peritonitis of appendiceal origin; under such circumstances the aspirated fluid is scant. The organisms are few in number.

In smears containing polymorphonuclear leucocytes in pneumococci, the diagnosis is pneumococcus peritonitis. So with smears containing polymorphonuclear leucocytes and Gram negative, diplococcus is characteristic of gonococcus peritonitis. The method of aspiration supplies the answer to puzzling diagnostic problems in acute abdominal conditions.

Illustrative Cases

CASE I.—An acutely ill female child, aged four years, was admitted with a history of fever and diarrhea of one week's duration. The abdomen was rigid, distended, with marked rigidity in the lower right quadrant. The diagnosis was evidently some form of peritonitis, but the etiology was uncertain.

Aspiration was done in the left lower quadrant and revealed purulent fluid containing Gram positive cocci. A diagnosis of streptococcus peritonitis was made, and therefore surgery was contraindicated. Cultures were taken and revealed hemolytic streptococci. The patient made a complete recovery.

CASE II.—A male child, eight years old, acutely ill, was admitted with a history of fever, vomiting, and abdominal pain, temperature 104°. The abdomen was distended and rigid throughout. Maximum tenderness and rigidity were in the right lower quadrant. On admission, the diagnosis was acute appendicitis with profuse peritonitis. On aspiration, in the left lower quadrant, a large quantity of pus was aspirated, a smear was made and found Gram positive. Diplococci were found and proved to be pneumococci. Operation was contraindicated.

The child died at the end of several days in spite of injections of large amounts of serum.

CASE III.—A female child, ten years of age, was admitted with a five day history of fever, vomiting, and abdominal pain. The abdomen was distended and tender throughout, the rigidity and spasticity appearing greatest in the right lower quadrant. Admission diagnosis was acute appendicitis with diffuse peritonitis. On aspiration of the left lower quadrant, the pus was found to contain numerous Gram positive diplococci. The smear proved them to be pneumococci. Blood cultures were positive in pneumococci. There was no indication for operative intervention.

CASE IV.—A boy, six years of age, was admitted with a history of upper respiratory infection, abdominal pain, and vomiting. On examination, acute pharyngitis was visible, with a great deal of abdominal tenderness, which later became localized in the lower right quadrant.

The possible diagnosis was considered to be mesenteric adenitis, streptococcus peritonitis, or acute appendicitis. Peritoneal aspiration yielded polymorphonuclear leucocytes; no other organisms could be found. The diagnosis of streptococcus peritonitis was ruled out by the absence of streptococci. Mesenteric adenitis was excluded by the presence of purulent fluid; this by a process of exclusion. The diagnosis of acute appendicitis was justified, operation was performed and a gangrenous appendix was found.

The culture of the pus later showed the presence of Bacillus coli and Staphylococcus albus.

Conclusion

Peritoneal aspiration as an aid in the diagnosis of acute abdominal conditions, serves also as a distinct aid in differentiating surgical from nonsurgical conditions. Thus, such aid will prevent many errors made by both surgeon and internist. Although this method is not infallible, it is, nevertheless, one of the greatest aids in the differential diagnosis of acute abdominal conditions.

1269 Grand Concourse

HIRSCHSPRUNG'S DISEASE (MEGACOLON)

Report of a Case in a Two Year Old Child

R. deR. BARONDES
Los Angeles, California

Megacolon, known also as Hirschsprung's disease, is usually classified as a congenital enteropathy. Its nature is not wholly clear, though a congenital abnormality of the colon is usually thought to be responsible for the condition.

Etiology

The following theories have been advanced as to the cause of megacolon: congenital dilatation and hypertrophy of the colon; abnormal length and loop formation of the sigmoid flexure; congenital ectasia of the lower portion of the colon with aplasia of the musculature; idiopathic dilatation of the colon ("innate tendency to dilatation"); and spasm of the sphincter ani. (The latter can be entirely ruled out. If it is present, it is an effect and not the cause.)

It is thought that the dilatation of the colon begins at the cecal area, extending up the ascending colon, to the transverse and descending colon, finally involving the sigmoid. Megacolon may be either congenital or acquired. The congenital form affects principally young children where the colon and sigmoid assume enormous dimensions. Both forms are supposed to be due to an imbalance of the autonomic nervous control of this portion of the bowel. The internal rectal sphincter is hyperactive and at the same time there is a reciprocal relaxation of the walls of the colon. Attempts have been made to explain this by some overactivity of the lumbar portion of the sympathetic nervous system. As a consequence it sometimes is treated by removal of the sympathetic ganglia supplying these parts.

Megacolon is relatively rare and usually appears in early childhood and more common in the female than the male. It is characterized by obstipation, pain, anorexia, and numerous other symptoms some of which often mislead both the parent and the physician.

Case Report

The patient, L. B., a female child, aged two years, was brought in for examination and treatment for continuous pain in the abdomen. The mother stated that the child was normal up to the age of fifteen months, when she began to show signs of constipation, loss of appetite, fretfulness, nausea, abdominal distress and anemia. From this time on, the bowel movements diminished in number and size. During the past three months there had been only an occasional movement which consisted of a few marble-sized hard stools. The patient was seen by other physicians during the past eight months, and the following diagnoses (according to the mother) was made: rickets, anemia, acidosis, endocrine dysfunction, Gaucher's disease, and constipation. None, however, thought of making a rectal examination. (Strange, but true, nine patients out of ten, when given a "thorough physical examination" never receive a rectal examination! Neither is such an examination given men entering the government service, except that where the examining physician stands some seven feet away from the examinee and tells him to bend over and bear down. What could possibly be learned from this? If the man does suffer from internal hemorrhoids, for instance, he can still contract the external sphincter and bear down without protruding them.)

One physician did wisely (?!) inform the mother to have a gastrointestinal x ray series made on the child! Luckily for all concerned, this was not done. In a suspected case of megacolon, or in any case of obstipation or severe constipation, such x raying is most definitely contraindicated. The barium here will not only aggravate the condition, as it could not possibly pass through the intestinal tract, but it would cause further obstruction, impaction and the great danger, ileus.

Physical findings.—The patient was fairly well developed and intelligent, but anemic in appearance. The abdomen was moderately prominent, especially in the part corresponding to the underlying transverse colon. On inquiry, the mother stated that the child, for some little time, had difficulty in urinating, often with great desire but inability to pass any urine. On inserting the well-greased index finger into the child's rectum, a hard mass, estimated to be larger than the average size grape-fruit, was felt. With difficulty, small portions could be broken off, which proved to be highly inspissated stool. After a considerable length of time, both digitally, and with the use of a rectal speculum, the rectum was fairly cleared of the hard stool, which was stained with mucus and blood. Other hard masses, though, could be felt that were out of reach. Pressure over the abdomen revealed that the complete colon was so impacted.[1] The patient was brought in for treatment two or three times a week, and equally large amounts of hard stool were removed in the same manner. Oil injections through the rectum were given to facilitate the softening. Oil was prescribed by mouth but no laxatives or physics. The child was kept on a liquid diet and given daily enemata, and at the end of the third week had its first normal bowel movement. The bladder symptoms disappeared after the first week.

[1]In this case, the hand pressed over the abdomen could detect the peristalsis of the colon, these contractions being accentuated by the castor oil given the evening before.

Treatment

Therapy is of only relative value here. Restriction of both animal protein and roughage appears indicated. (As can be seen, foods with harsh, bulky residue would only cause a quick return of the obstipation). The prescribed diet in this case was fruit juices, puréed fruits and green vegetables, gelatine, milk with cream taken off (fats are constipating in children); and carbohydrates. In some of these cases, the increased fermentation of the carbohydrates appears to be of some value as such fermentation tends to increase peristalsis, and the resultant gas production acts more or less in a propulsive manner to force the bowel contents onward. Mineral oil by mouth, and oil enemata over night, retained, if possible, aid in evacuation. Pituitrin, thyroxin, strychnine and belladonna, where spasm is present, all have their advocates, and are some of the palliative measures that might be tried. Abdominal exercise, massage of the abdomen, galvanism, and abdominal supports have been tried at one time or another for megacolon, with but little success. It would appear that curative therapy depends upon the elimination of the mechanical cause when this is determinable.

Some have advised surgical intervention, maintaining that resection of the involved loop of sigmoid is the method of choice for radical cure, especially where a congenitally large sigmoid is present. Others advise colostomy, the artificial anus being located proximal to the beginning of the dilatation of the colon. Recently, some advocate the excision of the lumbar sympathetic ganglia, or section of the hypogastric (presacral) and inferior mesenteric nerves. This latter procedure is based upon the theory that the condition of megacolon is the result of a hyperactivity of the sympathetic innervation of the rectum or rectosigmoid sphincter.

In 1937, I reported (*Jour. Am. Coll. Proc.*) a case of megacolon in a female, aged fifty-two years, who had been to many medical clinics for treatment of obstipation dating from childhood. No satisfactory diagnosis had ever been arrived at. This patient would often go as long as twenty-eight days without a bowel movement, and when anything was passed, it would only be an overflow of the looser stool that managed to seep down between the impactions and the bowel wall. In addition to the difficulty in defecation, respiratory and circulatory disturbances also developed due to upward displacement of the diaphragm by the enormously dilated colon. These disturbances, along with headache, nausea and vomiting, helped to make the diagnosis difficult. A rectal examination will invariably reveal the proper diagnosis.

A patient described by Formad in Barker's *Monographic Medicine,* had a colon whose contents weighed forty-seven pounds. The man was exhibited as a monstrosity, being known as the "balloon man". From this case it was surmised that the congenitally large sigmoid produced obstruction with a secondary dilatation of the colon, the filled sigmoid sinking more deeply into the pelvis, which aggravated the kinking process, and bringing on the obstruction. Irrigation of the colon, then, only produces temporary relief by emptying the sigmoid of its contents and permitting the loops to rise out of the pelvis, thus eliminating the kink temporarily. (Another case of megacolon was reported some time back, I believe, in the *Journal of the American Medical Association,* where, in an authentic but unbelievable case, the patient was said to have not had a bowel movement in some 365 days!)

Addendum

Texts state that when Hirschsprung's disease occurs in the very young, those up to the age of five or six years, death as a rule follows in about two or three years. Such a statement is not clear. If it means that interval from date of birth, or from date of first diagnosis, facts do not bear this out, as in many recorded cases dating from infancy, the patients have lived an otherwise normal span of life.

346 NORTH VERMONT AVENUE

SYMPTOMATIC TREATMENT OF GASTROINTESTINAL DISORDERS

J. J. STERN
New York, N. Y.

The most common complaint, with perhaps the exception of pain, confronting the physician is what might be summed up as "hyperacidity." Patients rarely consult the profession for the relief of their symptoms until household remedies have failed in the control of "belching", "heartburn", "acid taste", "sour stomach" and "burning eructation". It is essential to afford such patients relief even while endeavoring to find the actual cause of their complaint. In many instances, the agent for relief proves to be the remedy of choice for treating the condition. This has been our experience in the twenty-six cases which form the basis for this report, as well as fifty-three other cases of functional disturbances of the gastrointestinal tract. Our patients were selected only to the extent of excluding those who should receive immediate specific therapy and those recommended for surgical procedures.

Our method of treatment consists of dietary regulation plus syntrogel capsules[1] given at prescribed intervals or in some cases taken at the discretion of the patient himself. Each syntrogel capsule contains aluminum hi-gel, 5 grains; syntropan, 0.15 grains; bismuth subcarbonate, 2.5 grains; calcium carbonate, 2.5 grains, and oil of peppermint, 0.075 grains. The remedy embodies the attributes of several well-known antacids which are supplemented in their neutralizing action by the presence of a special aluminum hydroxide, hi-gel, and in addition a small amount of syntropan. This drug has an atropine-like action but does not have the unpleasant attributes of affecting heart rate, ocular accommodation or salivary and sweat gland secretion. An antispasmodic action is indicated to combat the hypermotility which is an almost constant companion of hyperacidity.

Such a preparation as syntrogel is admirably suited for our purpose inasmuch as colloidal aluminum hy-

[1]Syntrogel used in this study was provided by Hoffmann-La Roche, Inc., Nutley, N. J.

Table I: Partial Data of Patients Studied

CASE SEX AND AGE	CHIEF COMPLAINT	DIAGNOSIS	X RAY STUDIES	GASTRIC HCL FREE	GASTRIC HCL TOTAL	THERAPY	STOOLS, BENZ. TEST	RESULTS
1. K. K., male, 28 years		Ulcer of duodenum	Confirmed by x ray	45	61	Syntrogel and Sippy diet for 3 months	0	Improved; no complaint; 8 lbs. gained; normal acidity.
2. K. L., male, 34 years		Ulcer of duodenum	Confirmed by x ray	37	51	2 Syntrogel caps. b.i.d.; modified Sippy diet for 6 weeks	0	Improved after 4 weeks; free HCL 24, comb. 35, gained 4 lbs.
3. H. L., female, 36 years		Ulcer of duodenum	Confirmed by x ray	49	70	2 Syntrogel caps. t.i.d. for 3 weeks, then 1 cap. t.i.d. for seven weeks	+ dietetic error	Ewald meal at end of 6 weeks showed free HCL 39; total.
4. L. L., male, 34 years		Ulcer of duodenum	Confirmed by x ray	44	53	Sippy diet; stomach lavage once a week; 1 syntrogel cap. t.i.d.	0	Excellent, gain of 10 lbs. in 3½ mos.; refused operation for diverticulum because of good result.
5. L. M., male, 42 years		Ulcer of duodenum	Confirmed by x ray	35	47	Sippy diet for 4 weeks; high caloric diet with low fat, low cholesterol, 1 syntrogel t.i.d.	0	Ewald unchanged in 6 weeks; subjective improvement; still under observation.
6. K. McG., female, 30 years	Belching	Ulcer of duodenum	Confirmed by x ray	39	52	Sippy diet along with 1 cap.; syntrogel t.i.d.; soft diet after 4 weeks	0	Improved, constipation relieved; no belching after 4 weeks; gained 3 lbs.
7. C. C., female, 46 years		Duodenal ulcer	Confirmed by x ray	49	58	Sippy diet. 2 caps. syntrogel t.i.d.; calcium gluconate	+	Improved; no weight lost; stool negative after 3rd week.
8. H. St., male, 40 years		Duodenal ulcer	Confirmed by x ray	—	—	Modified Sippy diet, 1 cap. syntrogel t.i.d.; did not return after 4 weeks	0	Improved; gained 3 lbs.
9. M. C., male, 34 years	Heartburn	Duodenal ulcer	Confirmed by x ray	48	66	Sippy diet; 2 caps. syntrogel t.i.d. for 1st 2 weeks then 1 cap. t.i.d.	0	Relief from "heartburn"; gained 6 lbs.; discharged but told to keep on with diet and syntrogel.
10. C. M., male, 37 years		Duodenal ulcer	Confirmed by x ray	40	57	No special diet; 1 syntrogel cap. t.i.d. for 7 weeks	0	Improved after 2 weeks; no complaints; returns only to get syntrogel.
11. P. M., male, 36 years	Hyperacidity and pain	Duodenal ulcer	Confirmed by x ray	62	81	Sippy diet; belladonna and alkaline powder; after 3rd week no improvement and placed on syntrogel 1 cap. t.i.d.		Relief of pain and hyperacidity took place only after change to syntrogel medication.
12. A. F., male, 29 years		Ulcer of pylorus and stomach	Confirmed by x ray	57	78	Strict Sippy diet; 2 caps. syntrogel t.i.d. for 1 week; then 1 cap. t.i.d.		Excellent; Ewald meal at end of 3 months showed free HCL 44; total 60.
13. K. K., male, 38 years	Heartburn and pain	Ulcer on lesser curvature of stomach	Confirmed by x ray	—	—	Strict Sippy diet; patient unable to swallow syntrogel caps. when first tried; belladonna given for 3 weeks then syntrogel 2 caps. b.i.d. for 12 weeks		Spastic pains relieved with belladonna but still complained of heartburn which was relieved after he successfully started syntrogel; still being treated.
14. M. M., male, 12 years	Heartburn and pain	Acute gastritis	——	45	59	Modified Sippy diet; 3 caps. syntrogel per day for 1 week; 2 caps. for next 2 weeks		Rapid improvement after 3rd day; at end of 2 weeks no heartburn and only slight pain; no complaints after 3rd week.

Table I (continued)

CASE SEX AND AGE	CHIEF COMPLAINT	DIAGNOSIS	X RAY STUDIES	GASTRIC HCL FREE	GASTRIC HCL TOTAL	THERAPY	STOOLS, BENZ. TEST	RESULTS
15. K. L., female, 47 years		Gastric neurosis; climacteric	Stomach and duodenum normal; increased peristalsis	50	66	No special diet; 2 syntrogel caps. 3 times a day for 4 weeks; then 1 cap. t.i.d. for next two weeks, and finally 2 caps. a day for 1 week		Gradual improvement of all nervous symptoms especially fear of malignancy; after 5th week no complaints; gain of 3 lbs.
16. L. B., female, 45 years		Gastrointestinal neurosis; slight hyperthyroidism	Increased peristalsis	slight hyperacidity		High caloric diet; low fat and cholesterol; 3 syntropan tablets per day for 3 weeks		Improvement; normal appetite in 3 weeks; normal bowel movement.
17. F. R., male, 24 years	Belching, heartburn, headache	Gastric and general neurosis	Coarse gastritis; no signs of original lesion	46	57	No special diet; coarse foods to be avoided; syntrogel 3 times daily		Unchanged for 2 weeks, then quick and continuously progressive improvement; observed for 3 months; loss of belching, heartburn and headache.
18. E. S., female, 29 years	Heartburn and pain	Acute enteritis	Fluoroscopic findings normal	—	—	Soft diet; syntropan tabs. 3 daily for 4 weeks		Severe heartburn and gastric pains were relieved within 1 week; during the 4th week of treatment, patient resumed normal diet, continued syntropan; remained symptom free.
19. W. G., male, 33 years	Belching, heartburn, pain	Gastric neurosis	Hyperperistalsis, functional pylorospasm; high fluid level	34	49	Modified Sippy diet, phenobarbital and syntropan 2 tabs. twice a day for 2 weeks, 2 tabs. daily for 3 weeks		Belching and heartburn greatly relieved; spastic pain diminished after several days and completely symptom free at end of 6 weeks.
20. B. W., female, 52 years	Heartburn and pain	Chronic gastritis, hyperacidity	Coarse gastritis, no signs of original lesion	51	79	Sippy diet, phenobarbital, syntropan 3 tabs. daily		No signs of objective improvement; still hyperacid in 5th week of treatment; subjective improvement distinct, pains only slight, heartburn minimal and quickly relieved by syntrogel.
21. B. M., female, 27 years	Heartburn and pain	Allergic acute gastritis. Due to carbonated beverage containing caffeine	Normal	40	56	Withdrew carbonated beverage; soft diet; syntropan 3 tabs. a day for 2 weeks, 2 tabs. a day for another ten days		Heartburn and pain quickly relieved.

droxide has been found very efficient as an adsorber of acid. The acid neutralizing effect of bismuth subcarbonate and calcium carbonate (the other antacids which go to make up the capsule) have been well recognized for a number of years. In addition such capsules are conveniently carried about and easily swallowed by the majority of patients.

Our patients related a diversified number of "chief complaints" but in the last analysis each could be boiled down to one of two words, "pain" or "hyperacidity" (Table 1). It will be noted from the statistical data herewith presented, that not all patients were found to have a hypersecretion of acid. Such cases obviously were not candidates for syntrogel, and where the complaint was one of pain due to gastrointestinal spasm or gastric hypermotility, syntropan alone was used.

Following is a typical case history taken from the records of seventy-nine patients symptomatically treated in the out patient department of Gouverneur Hospital, New York. A partial data list (Table 1) of the patients studied is included in order to emphasize the similarity of complaints, despite the utimate diagnosis, and the uniformly good results obtained.

Case Report

A twenty-seven-year-old male complained of persistent acid eructations, "heartburn" during and after meals, and the presence of epigastric pain about one hour after meals. His appetite was poor and he complained of a constant dull gnawing pain in the epigastric region which he differentiated from the pain appearing after meals. These symptoms had been present for two years, with the exception of several intervals of about a month during which time he felt perfectly well. Physical examination was essentially negative, except for the presence of an area of tenderness over the pyloric region. The Ewald test revealed hyperacidity and hypersecretion. The stool was negative for occult blood by the benzidine test. Fluoroscopic examination revealed normal passage of barium through the esophagus. The stomach was normal in size, shape and position. Peristalsis was seen to set in immediately upon ingestion of the barium and the stomach emptied rapidly. A clover leaf deformity was observed at the duodenal cap and a distinct nichelike filling defect was seen in the first portion of the duodenum. X ray plates verified the fluoroscopic findings, and a diagnosis of nonbleeding ulcer of the first part of the duodenum was made.

The patient was placed on a modified Sippy regimen representing a moderate, bland diet with relatively low cholesterol and fat, but high carbohydrate. In order to control the distressing symptoms of hyperacidity two capsules of syntrogel were given three times a day for one week and then one capsule three times a day for the following four weeks. The patient was seen in the clinic at least once and sometimes twice a week. After several weeks, the patient declared of his own volition that heartburn and belching were less annoying and at the end of eight weeks he had no complaints. The first two weeks of treatment revealed no change in weight and he was not weighed again until the end of the second month, at which time it was found that he had gained four pounds. An Ewald test performed at this time revealed a normal gastric acidity and x ray examination showed a lessening of the duodenal cap deformity, the niche being definitely smaller. Gastric motility was markedly less, emptying time being six hours.

Summary and Conclusions

1. A series of twenty-six cases of peptic ulcer and fifty-three cases of functional disturbances of the gastrointestinal tract were treated with syntrogel capsules in conjunction with diet therapy.

2. A typical case report, describing in detail the complaints, result of examination, diagnosis and treatment of one patient, is presented as well as statistical data concerning twenty-one additional patients.

3. A one-medication adjuvant to the symptomatic relief of gastrointestinal disturbances is feasible and without doubt is of practical importance.

4. It is sometimes difficult or impossible to get patients to take the comparatively large capsule but if spasm is first relieved subsequent attempts to ingest and retain the capsules invariably meet with success.

5. Syntropan has been found useful in relieving gastrointestinal complaints of a spastic nature.

6. Syntrogel has no place in the treatment of gastric complaints which are not associated with hyperacidity.

7. Syntrogel should not be considered as specific therapy in gastrointestinal disorders but may be used with a great degree of success in overcoming the symptoms associated with hyperacidity.

Addendum

Subsequent to the preparation of this article, I have had the opportunity to use the tablet form of syntrogel which has recently appeared on the market and which contains the same ingredients as the capsule. The results obtained with the tablet have been essentially identical with those reported above for the capsule, although it is pertinent to note that some patients expressed a preference for the tablet from the viewpoint of rapidity of action and convenience of administration.

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609 West 174th Street

THE LOCAL PROPHYLACTIC USE OF CHEMOTHERAPY (SULFANILAMIDE) AFTER INTRAABDOMINAL OPERATIONS AGAINST THE DEVELOPMENT OF POSTOPERATIVE INFECTION

ABRAHAM O. WILENSKY

New York, N. Y.

This communication contains my personal experience in the use of sulfanilamide applied locally in an abdominal operative wound as a prophylactic against the development of any postoperative infection. The cases were not selected in any way but occurred seriatim.

The method of procedure was as follows: The operation, whatever its nature, was performed and completed in the usual way including drainage by tube or packing whenever indicated. Just before the abdominal wound was about to be sutured, sulfanilamide powder was insufflated all over the operative field in the amounts indicated in the case reports. Then the incision was closed and dressed in the usual way. The postoperative care and treatment, including dressings of the wound, followed the usual routine. The amount of drug insufflated into the wound was the total dose given, and the size of the latter depended upon the magnitude of the wound and the degree of contamination and infection. No further dosage was given throughout the subsequent observation either by mouth or in any other manner.

Case Reports

CASE I (FH 1941/6377).—Left salpingooophorectomy twisted ovarian cyst. There was free seropurulent fluid in the pelvic cavity. A cyst ruptured and a large amount of purulent material was expelled into the pelvis. Four grams of sulfanilamide powder were used. One tube drain to pelvis was used in addition. Healing was uneventful.

CASE II (BH 123866).—Incision and drainage of residual intraabdominal abscess following acute hemorrhagic pancreatitis. Eight grams of sulfanilamide powder were used, with adequate drainage. Healing uneventful.

CASE III (BH 122331).—Peculiar hypertrophic pelvic peritonitis possibly resulting from injection of hemorrhoid, with accidental penetration of pelvic cavity; exploration only. Eight grams of sulfanilamide powder were used; no drainage; primary suture. The immediate healing was uneventful; late repeated wound infection.

CASE IV (FH 1941/1707).—Incision and drainage of pararectal abscesses resulting from perforated nonspecific granulomatous complete stricture of the rectum; sigmoid colostomy. Twelve grams of sulfaguanidine powder used. Granulations seemed more healthy, otherwise, healing was uneventful.

CASE V (FH 1941/3916).—Residual rectoabdominal fistula following ileocecal resection for nonspecific granuloma of the ileum; with involvement of the rectum and perforation into it. One previous attempt at closure had been unsuccessful. The present attempt at intraperitoneal closure of perforation through the abdominal route was successful. Eight grams of sulfanilamide powder were used. Uneventful convalescence and healing followed.

CASE VI (BH 125355).—Extraperitoneal closure of sigmoid colostomy (primary Mikulicz Vorlagerung for carcinoma of the sigmoid). Four grams of sulfanilamide powder were used; no drainage. Healing was by primary union.

CASE VII (BH 115751).—Exploratory laparotomy: Sigmoid colitis; perisigmoiditis; mesosigmoid adenitis. Mikulicz colostomy was performed. Eight grams of sulfanilamide powder were used. Uneventful healing.

CASE VIII (BH 121976).—Laparotomy for perforation of sigmoid with perisigmoiditis and pelvic abscess. Incision and drainage only. Twelve grams of sulfanilamide powder were used. Uneventful convalescence and healing followed.

CASE IX (FH 1941/3465).—Sigmoidotomy and removal of polypoid tumor of the sigmoid. Eight grams of sulfanilamide powder were used. Uneventful healing by primary union.

CASE X (FH 1941/3850).—Exploratory laparotomy: inoperable carcinoma of the sigmoid with general abdominal carcinomatosis. Colostomy was performed. Eight grams of sulfanilamide powder were used. Uneventful healing by primary union.

CASE X1 (BH 124411).—Secondary Mikulicz Vorlagerung with removal of carcinoma of the sigmoid. Eight grams of sulfanilamide powder were used; no drainage. Uneventful healing of the wound.

CASE XII (FH 1941/6027).—Perineal excision of the rectum for carcinoma. Contamination of the operative wound by accidental opening of the rectum. Twelve grams of sulfanilamide powder were used. Uneventful and ideal healing.

CASE XIII (FH 1941/3856).—Perineal excision of the rectum and anus for carcinoma. Eight grams of sulfanilamide powder were used. Uneventful and ideal healing.

CASE XIV (BH 122053).—Resection of the rectum in continuity through the posterior (Kraske) approach. Eight grams of sulfanilamide powder were used. Uneventful healing for twelve days after which there was a sudden chill and the temperature went up to 103° F.; suppuration then developed which took its usual course.

CASE XV (BH 125353).—Second stage Lahey operation; abdominal exploration; inoperable carcinoma of the rectum. There was partial liberation of the rectum into carcinomatous tissue during exploration. Eight grams of sulfanilamide powder were used. Uneventful healing.

CASE XVI (FH 1941/2885).—First operation: exploration for pelvic tumor involving rectum and adnexa. Rectum and infected sinus tract were unintentionally and unavoidably opened during exploration. A preliminary sigmoid colostomy was performed. Twelve grams of sulfanilamide powder were used. The postoperative course was uneventful.

Second operation: Secondary laporotomy for attempted removal of tumor. The condition was totally inoperable. The bowels opened repeatedly during attempt at removal. Twelve grams of sulfanilamide powder used. Postoperative course was uneventful; no extraordinary infection developed.

CASE XVII (FH 6646/41).—Primary resection of the terminal ileum, cecum and ascending colon and closure of both ends and side-to-side ileotransverse colostomy. There was moderately severe, incomplete, chronic intestinal obstruction of six months' standing. Owing to the intestinal distention, there was much spilling of small intestinal contents. Twenty grams of sulfanilamide powder were used all over the operative field. One rubber tube drainage to the retroperitoneal space. No extraordinary infection developed. The patient, however, gradually deteriorated and died three weeks later.

CASE XVIII (FH 6729/41).—Appendectomy for acute gangrenous appendicitis with localized pelvic abscess and diffuse general peritonitis. One tube was inserted for drainage to the pelvis. Twelve grams of sulfanilamide powder were used. No infection developed. The patient recovered.

CASE XIX (FH 6805/41).—Appendectomy and drainage for acute gangrenous perforated appendicitis with pelvic abscess and diffuse fibrinopurulent peritonitis. One tube drain to the pelvis. Eight grams of sulfanilamide powder were used. No infection developed and uneventful recovery followed.

Comments and Results

Sulfanilamide was used in every case, with the one exception of Case IV, in which sulfaguanidine was employed. One immediate effect noted after the use of sulfanilamide was that the drug caused an unusual amount of oozing from any surface with which it lay in contact. Nevertheless, this seemed to be of no clinical importance; nor did it seem to have any local effect subsequently upon the healing of the wound. This extraordinary oozing did not occur in the case in

which sulfaguanidine was used. In none of the cases did any recognizable toxic symptoms appear.

The patients all reacted from the anesthesia and from their operations in a manner which was no different from other patients with similar conditions and operations. The usual amount of postoperative temperature developed and the subsidence of the latter followed the pattern which was customary with other similar cases. Except for Case XIV, there was no subsequent rise of temperature, nor any general or local symptoms or signs which might indicate a flare-up of infection, or the occurrence of some local complication. One could say that in the exceptional case, the amount of drug used was insufficient and that because of this a flare-up of infection occurred. But it happened in this case, that the orderly, in changing the superficial dressings, accidentally removed the drainage tube; and it seems altogether possible that this caused retention of secretion and the temperature.

This series of cases, while small, is, however, distinctly appropriate because of the character of the cases in which one is accustomed to see postoperative infection develop in a fair percentage to an extent which may even lead to a fatality. In this series only one case was lost and, except for the one doubtful case, no instance of postoperative infection occurred.

Conclusion

The conclusion seems obvious that sulfanilamide used locally in the manner indicated was most efficacious in preventing any operative contamination in an abdomial incision and/or intraabdominal operative field from progressing into an active potentially dangerous local or general infection. The efficiency of this preventative action was so marked as to make its further and future local use obligatory in all intraabdominal operations in which contamination occurs and/or in which infection might possibly develop. In this regard chemotherapy is a distinct advance in the safeguarding of intraabdominal operations.

12 East Eighty-seventh Street

Carcinoma of the Stomach

Carcinoma of the stomach is comparatively frequent and difficult to diagnose, that is, in time for successful treatment. Of course, the sooner the nature of this disease is discovered the more apt to be successful are measures taken for cure or relief. When a tumor can be felt it is, as a rule, too late for even the most drastic methods to do more than perhaps prolong life.

It falls to the lot of the general practitioner, the family doctor usually, to discover the character of the disease. On him the responsibility is greatest. The onset of the malady is insidious. It masks its beginning, or rather its development, under the guise of some form of dyspepsia and the doctor needs to be especially on guard when a series of cases have proved to be dyspepsias amenable to treatment. He must not be rendered confident or his mind made easy on this account; rather he should be ever suspicious in cases of dyspepsia lasting for some time. Age is one of the more important factors in the diagnosis of carcinoma of the stomach, but the doctor should not be put off his guard because dyspeptic symptoms are present in the middle aged or the young. Again, loss of weight is a suggestive symptom, certainly so if it is out of proportion to the degree of gastric disturbance to be expected in ordinary dyspepsia. Flatulence too is a symptom, as it is also of dyspepsia.

After all, the dyspepsia is brought about by the cancerous process and the point is to discover if possible the primary cause of this dyspepsia, a procedure advised and practised by the late Sir James Mackenzie. If he was not able to practise it, at least he established an institution in which medical men were trained to try to discover primary causes of diseases. Needless to say it is a most difficult task, often impossible, as so many diseases are of multiform pathology—no doubt cancer included. As a proof, and of course proofs are numerous, of the difficulty of diagnosing carcinoma of the stomach until too late, Dr. L. R. P. Marshall, in an address on surgery in general practice, to Sir John Fraser's Clinique in the Royal Infirmary of Edinburgh, on November 22, 1937, pointed out that naturally a family doctor should see and treat cases successfully for dyspeptic symptoms long before they eventually develop malignancy. In support of this statement he related the history of a case drawn from his own experience. A woman of fifty-five, with a much dilated stomach, was admitted to the medical department of the Edinburgh Infirmary for observation and treatment. Finally it was decided to have a gastroenterology done. At the operation a carcinoma of the pylorus of about the size of a plum was found with involvement of neighboring glands. Dr. Marshall had had that case under treatment for attacks of gastritis and dyspepsia off and on for longer than ten years, but careful examination by himself and others failed to say when malignancy supervened.

Many cases of a similar kind could be cited, which goes to show the extreme difficulty of diagnosing carcinoma of the gastric region in time for operation. Therefore, it behooves general practitioners to exercise the greatest caution when dealing with cases of dyspepsia. To be on the safe side, it is the act of wisdom to obtain the services of a specialist and to have the patient examined by him, reinforced with all the accessories which science has brought to his aid. Even then the nature of the disease may not be discovered until measures for cure or relief are useless. The family doctor is still the foundation and prop of the medical profession and it may be added that it is generally from their ranks that the best specialists are recruited. It is a case of experience teaches.

Antacids

H. C. Breuhaus and J. B. Eyerly, Chicago, discuss the effect of antacids by titration and within the human stomach (*Ann. Int. Med.*, 14:2285 (June) 1941). The authors stated that the degree of gastric acid reduction accomplished with an antacid cannot always be predicted from its potential neutralizing capacity as determined by titration. In most instances a surprisingly small decrease in gastric acidity is accomplished even when the customary amount of antacid is given every thirty minutes. Milk is one of the most satisfactory neutralizing agents. Pure gastric juice has no constant acidity. Comparative neutralizing capacities of equal amounts of magnesium oxide, calcium carbonate, sodium bicarbonate, tribasic calcium phosphate, tribasic magnesium phosphate, magnesium trisilicate and bismuth subcarbonate were determined by titration and

results recorded as the amount of 0.17N HCl required to bring ten grains of the antacid, dissolved or diluted in 150 cc. water, to pH 3.5. These values varied from almost 0 for bismuth subcarbonate to 81.8 cc. for magnesium oxide. In testing the reaction within the human stomach a special glass electrode was placed in the antrum and the pH determined with the Coleman electrometer. Patients without organic gastrointestinal abnormalities were chosen. The electrode was lowered into the fasting stomach, ulcer management begun and in thirty or more minutes, tests were started. Readings were taken at five minute intervals over a two hour period. Ninety cc. of milk and antacid were given individually at alternating thirty minute intervals. These *in vivo* studies showed tribasic calcium phosphate, tribasic magnesium phosphate and mucin to have the highest neutralizing capacity, yet the tribasic powders produced the greater elevation. These two antacids act quickly, are rapidly diffused and consequently are able to exert their effect before leaving the stomach. Sodium bicarbonate is readily diffused, reacts rapidly and yet the average pH obtained is relatively low. Aluminum hydroxide and magnesium trisilicate, as amphojel and trisomin, respectively, have been improved; they react less slowly than formerly. If adequate amounts of these two antacids are given and retained within the stomach for a sufficient period, satisfactory pH elevation should occur, but in both instances of this study satisfactory acid reduction was not produced.

Rectal Carcinoma and Pregnancy

C. W. Mayo and A. B. Hunt of the Mayo Clinic, in a discussion of pregnancy complicating carcinoma of the rectum or carcinoma of the rectum complicating pregnancy (*Proc. Staff Meet., Mayo Clinic,* 16:513, 1941), state that during convalescence from subsacral resection of adenocarcinoma of the rectum a forty-two-year-old woman, four and one-half months pregnant, was treated with progesterone in the form of proluton, four mg. daily, for the first three days and two mg. daily thereafter until the ninth day. She had an uneventful recovery. In the thirty-eighth week of gestation, pregnancy was continuing normally. At approximately nine months a four pound, four ounce, male infant was delivered by Cæsarean section. Fifteen months later the child and mother were in good health.

In discussing this case Dr. Mayo stated: Important in the preparation of the patient was the use of progesterone in the form of proluton, which was given with sedatives, and gentle irrigations of the lower part of the colon. Much has been written concerning progesterone and its value in threatened abortion and in the neutralization of pituitrin and its action on the uterus. The administration of progesterone was continued postoperatively for nine days.

Vitamin A in Jaundice

Is vitamin A likely to be of therapeutic value in jaundice? The argument in favor of this supposition is somewhat as follows. The liver is the main source of vitamin A in the body. Night blindness has been shown to be due to vitamin A deficiency and is a frequent symptom in jaundice. Whereas vitamin A, even when given in large doses is not present in the urine of normal persons, partial elimination in the urine does occur in patients with hepatic disease. This argument is worked out by Dr. M. Salah in the *Journal of the Egyptian Medical Association,* March 1940. Dr. Salah has used intensive vitamin A therapy in three cases of chronic obstructive jaundice of two years' duration with night blindness and marked xerophthalmia of the conjunctiva and cornea. The daily doses given in the parenchymatous cases exceeded 70,000 units by mouth. The night blindness disappeared completely in four, five and six days respectively, and the jaundice and disturbed liver functions improved. In the obstructive case the patient was put on a carbohydrate diet and given one cc. of a vitamin A preparation intramuscularly daily. The night blindness disappeared in two weeks, the xerophthalmia in three weeks, and the jaundice and liver function improved. Judging from the described good results the author is of the opinion that treatment by massive doses of vitamin A is indicated in cases of chronic obstructive jaundice and also in parenchymatous jaundice of some duration.

New Sulfonamide Drugs and Their Uses

J. F. Sadusk, Jr., New Haven, read a paper on new sulfonamide drugs and their uses before the Seventeenth Clinical Congress of the Connecticut State Medical Society, September 16, 1941. He stated that three new sulfonamides had been released by the Food and Drug Administration during the last year, sulfaguanidine, sulfadiazine, and sulfacetimide, and he gave formulas for these three drugs together with those of sulfanilamide, sulfapyridine, and sulfathiazole. Sulfaguanidine, he said, after large dosage, was found largely in the intestinal tract, little being absorbed into the blood, and was, therefore, especially adapted to treatment of intestinal infections, particularly acute bacillary dysentery. The recent report by Lyon of this use of sulfaguanidine in the *W. Va. Medical Journal* was detailed, as was also Firor's report of the prophylactic use of sulfaguanidine in abdominal surgery. There were no favorable data on the use of sulfaguanidine in typhoid fever or ulcerative colitis. The adult dose is six to seven grams. The toxicity data for sulfaguanidine were not complete, and while there had been reports of drug fever, anuria, etc., these cases required careful following. At the New Haven Hospital, through the courtesy of Dr. Feinstone of Lederle Laboratories, the author said that much attention had been given recently to clinical tests with sulfadiazine. This drug is readily absorbed but not rapidly excreted, and there is great variation in absorption. It diffuses into ascitic and pleural fluid. The variation in absorption from the gastrointestinal tract is not sufficient to preclude standardized dosage. Four grams are used initially, followed by one gram every four hours, day and night. The acetylization product of sulfadiazine is more soluble in urine than nonacetylated sulfadiazine, contrary to other sulfonamides. Sulfadiazine diffuses into the cerebrospinal fluid in fourteen hours. Among the clinical uses may be mentioned pneumococcus meningitis, urinary tract infections, and gonorrhea.

Bacillary Dysentery

J. Zikowsky (*Wien. klin. Wchnschr.* 53:859, 1940) says that in the treatment of bacillary dysentery measures must be taken to counteract the loss of fluid and circulatory collapse. Among others, the administration of vitamin C and adrenal cortical hormone is advised.

Practical Therapeutics

A NEW HERNIA INJECTION SOLUTION

With the Use of Vitamin C

LOUIS H. LEVY

New Haven, Conn. and New York, N. Y.

About two years ago, after a three and one half year's experience with the injection method, during which time more than 300 herniated patients had been treated, I reviewed my experiences and results. The conclusion arrived at was that the injection treatment had a definite place in selected cases of hernia but that much more research would be necessary to prevent recurrences and unpleasant reactions. Since in some cases more than three years had elapsed following cessation of treatment, a sufficient amount of evidence was at hand as to the number of recurrences. In reducible indirect inguinal hernia, completely controlled by a truss, with the external ring less than three cm. in diameter, recurrences were under ten percent. Very few direct hernias had been treated and these with unfavorable results. Small umbilical, incisional and ventral hernias, with very small areas for treatment, responded nicely. Femoral hernias were not treated.

Although recurrence in the apparently cured cases was under ten percent, it was felt that the treatment could be improved. For example, some cases required a large number of injections, varying from thirteen to thirty. The larger number often tried the patience of both the injector and the patient. Some failed to respond to one solution but reacted better to another. In all at one time or another eight different solutions were tried.

Importance of a Proper Fitting Truss

One of the most important factors for good results was proper truss application. Placing entire reliance on the truss fitter did not work out well. Some of these were more interested in the financial side of the case and gave no or little cooperation. Others had some special truss of their own or new type of cushion that they wanted to put across. About twenty different makes or types of trusses were tried and given up before a satisfactory one was found. The rigid trusses gave the most trouble by producing skin lesions the healing of which at times took longer than the actual treatment of the hernia.

Perhaps as important a problem as any was the occurrence of reactions following the injections. These varied from marked burning, lasting for hours, to pain caused by swelling of the cord. None were serious and disappeared without much trouble. When I began to use the injection method, the almost invariable rule, with the more popular injection solutions, was the injection of two cc. or three cc. each time. Reactions were a frequent occurrence. These resulted from too much solution in the canal with a resultant irritation of the cord or the pooling of too large amount in the tissues. When only one cc. was used a larger number of injections were required.

Conclusions

From these observations, there was deducted the following conclusions:

Patients must be carefully selected. Only completely reducible, completely controllable, indirect inguinal hernias with external rings not over three cc. should be treated.

There should be avoided the patient with the large pendulous abdomen unless this could be satisfactorily supported.

The chronic, hard coughing, heavy smoker should not be treated.

A firm, immovable, nonrigid truss with complete control of the reduced hernia and strong pressure on the canal, should be used. The truss fitting should be the job of the one doing the injecting.

The injecting solution should be composed of more than one sclerosing substance, capable of producing satisfactory firm fibrosis with one cc. injections.

Bearing these facts in mind, early in January 1940, I revised my earlier methods of treating hernia by injections. A very strict selection of cases was the absolute rule. Unfavorable cases were refused treatment. An excellent truss that fulfilled the necessary requirements was found in the Brook's Peerless injection truss. The writer has a sufficient number of these on hand at all times to fit all types of patients.

The solution decided upon was a combination of sylnasol, containing five percent of phenol, buffered to a Ph of 9.6 to avoid the irritating acid action of phenol.[1] To this was also added two percent benzyl alcohol for anesthetic effect. Of the various solutions that had been used, sylnasol had been found to be one of the most satisfactory. My experience with five percent phenol in oil in the treatment of internal hemorrhoids had convinced me that this concentration of phenol in sylnasol might be an excellent addition as a fibrotic and, further, that its anesthetic property might have value.

Immediately after using this solution there was noticed a marked improvement in the results of treatment. Fibrosis was the best I had obtained with any previous solution. The number of required injections was reduced to eight or nine for the smaller hernia and to not over thirteen for the larger hernia. The careful attention to truss application had a great deal to do with some of these results. For example, when with the truss cushion alone good canal pressure was not obtained, there was fitted beneath it, a small rectangular piece of firm sponge rubber, one half inch thick. This was found very useful in thin, bony patients in helping to fill out the hollows under the truss cushions.

[1]Experimental solution, not commercially available as yet.

It is appropriate to mention here an observation made on a seventy-three year old patient who responded nicely to the treatment. This observation has led to an addition in the treatment, that is believed to have an important bearing on the uniformly good results that are now being obtained. This man, tall, thin, working thirteen and one half hours daily, seven days a week, had a medium sized easily reducible hernia, which had been present for several years. Unusual for a man of his age and type, it was noticed that the canal was closing very rapidly and with firm fibrotic tissue about the external ring. On questioning him as to his dietary habits, he stated that because he liked it, he drank daily, at least four glasses of lemonade, each containing two lemons.

This recalled to my mind the work that has been going on for the last four years on the hastening of slow healing of wounds following operation by the use of vitamin C. Vorhaus, reporting in 1938, stated that a deficiency of ascorbic acid resulted in abnormalities of all intercellular substances having collagen as their basis and that its absence prevents the formation of the matrices of white fibrous tissue. In the normal development of structural tissue, he further states, fibrils are formed between fibroblasts which join to make supporting bands of collagen. When vitamin C is not present in adequate concentration the intercellular structural or cement tissue is not formed or may be absorbed. Whipple, writing in 1940 on vitamin balance, stated that it has been definitely shown that both C avitaminosis and C vitamin deficiency prolong the lag period because of the essential rôle of vitamin C in the formation of intercellular substance and maturation of the fibroblast and the transformation of fibrous to collagen fibers.

It had been puzzling to find patients with small hernias responding poorly to the injection treatment, while others with large and even scrotal hernias doing nicely. It was thought that part of the answer lay in a possible vitamin C deficiency in the former and a goodly amount in the latter. Because of this thought, every case was given by mouth daily 100 mg (2000 I.U.) of vitamin C. Without seeming too optimistic, it can be stated that because of the better and more uniform results being obtained since the beginning of its use, it is felt that a definite advance has been made in the treatment of hernia by injection and that vitamin C should be given in all cases.

Although a sufficient time has as yet not elapsed since cessation of treatment in a large number of cases in this last group, from previous experience in over three hundred other cases treated earlier it is my belief that there should be no more than five percent recurrences. More than 150 cases have been treated with the new solution described in this article. With the first patients almost eighteen months have passed since the completion of treatment. All have been carefully followed up. To date, there has been less than five percent recurrence which with a few additional injections have already been corrected.

Others can obtain the same results, if the suggestions mentioned here are followed. However, for the benefit of those contemplating the use of this method for the first time, it must be strongly emphasized, out of fairness to this form of treatment and to the patient, that it should not be undertaken unless the one using it is thoroughly acquainted with the anatomy and pathology of hernia, unless he knows truss mechanics, and has had a satisfactory knowledge of injection technique, acquired under the tutelage of one experienced and skilled in its use.

1172 CHAPEL ST., NEW HAVEN, CONN.
140 WEST EIGHTY-SIXTH STREET, NEW YORK

The writer is deeply indebted to Dr. R. S. Kemp, Medical Director of G. D. Searle & Co., for his kind cooperation in the preparation of the new injecting solution and for his excellent advice.

A Simple Skin Scarifier for Allergic Testing*

VINCENT J. DERBES
New Orleans, La.

The scratch technique of determining sensitization in allergic conditions is thoroughly established. The method consists of exposing the allergen to the skin cells by tearing slightly, rather than sharply cutting, the epidermis. A clean cut draws blood, and this is to be avoided. It is for this reason that the chalazion knife, the Hagedorn needle, and other such sharp edged instruments are not completely satisfactory.

The ordinary anatomical dissecting probe, slightly sharpened, overcomes this disadvantage. Furthermore, it is practically indestructible, readily sterilizable, and fits comfortably in the hand.

PERE MARQUETTE BUILDING

*From the Department of Medicine, Tulane University School of Medicine.

Treatment of Fresh Wounds

R. H. Kennedy, in a paper read before the Seventeenth Clinical Congress of the Connecticut State Medical Society, September 16, 1941, said that accidents were the chief cause of death in males aged twenty to forty-five and the fourth cause of death in the whole population, and there were four to five times as many injuries as deaths resulting from accidents. There are nine million injuries a year in this country, he continued. In the treatment of shock heat is most important. Morphine can be used in all cases of shock except where the brain is involved, and then caffeine must be added. Desoxycorticosterone acetate seems to be of some value in shock in keeping fluids balanced and in maintaining blood pressure. Sulfonamides are bacteriostatic and are of value in diminishing infection from streptococcus. Sulfathiazole may be sterilized at 120° C. in powder form and kept in appropriate sized bottles. Twenty-two grams is the maximum amount to be used at any one time. Dr. Kennedy has seen 400 mg. concentration in the serum by absorption from the wound while there is only 3 to 4 mg. concentration after sulfathiazole by mouth. Application of sulfathiazole to the wound does not interfere with healing. After thirty-six hours it is safer to administer sulfonamides only by mouth. The wound must be thoroughly excised before applying the sulfonamide drugs. Azochloramide was recommended for cleansing the wound. Sulfonamides are now part of the official U. S. Army first aid kit for use by mouth in the treatment of fresh wounds.

News Items

Friday Afternoon Lectures.—Dr. R. Townley Paton, surgeon Manhattan Eye and Ear Hospital, will deliver the ninth Friday Afternoon Lecture at the New York Academy of Medicine on January 23rd. His subject will be Interrelationships of Ophthalmology and Systemic Diseases. The tenth lecture will be given on January 30th, by Dr. Robert F. Loeb, professor of medicine, Columbia University, on Plasma Proteins in Health and Disease.

Conference of Radiologists.—The annual midwinter eastern conference of radiologists will be held in New York, on Friday, January 23rd and Saturday, January 24th. All sessions will be held in the Grand Ballroom of the Hotel Biltmore. On account of this conference, there will be no regular monthly meeting in January of the New York Roentgen Society.

Convention of Nurse Anesthetists.—The eighth annual convention of the Mid-South Postgraduate Nurse Anesthetists Assembly and the Tennessee Association of Nurse Anesthetists will be held in Memphis, Tenn., on February 11th and 12th, conjointly with the annual session of the Mid-South Postgraduate Medical Assembly. An interesting program has been prepared which will consist of scientific papers and clinical demonstrations of problems in anesthesia.

Dermatology and Syphilology Discussion.—At a meeting of the section of dermatology and syphilology of the New York Academy of Medicine, to be held on February 3rd, the program will consist of case presentations from the diagnosis and treatment centers of the Bureau of Social Hygiene of the New York City Department of Health and cooperating hospitals. Physicians and medical students are invited to attend.

Kings County Medical Society Honors Ex-Presidents.—Kings County Medical Society gave their annual dinner to the ex-presidents of the society, on January 17th, at the Hotel St. George, Brooklyn. At this dinner each living ex-president was presented with a medal and scroll. Dr. Charles A. Gordon was chairman of the committee which planned the dinner.

New York Physical Therapy Society.—At the annual meeting of this society, held at Lenox Hill Hospital, on January 7th, the following officers were elected: president, Dr. Harold Neifeld; vice-president, Dr. Charles G. Buckmaster; treasurer, Dr. Richard Kovacs; secretary, Dr. Madge C. L. McGuinness; executive committee: Dr. Lewis J. Silvers, chairman; Drs. Stella S. Bradford, Karl Harpuder, Sidney Licht, and Michael J. O'Connor.

New York Physicians Association.—A stated meeting of this association will be held at Squibb Hall, on Wednesday evening, January 28th. The scientific program will consist of the following two papers: Thromboangitis obliterans treated with kidney extract, by Dr. Benjamin Jablons; Recent advances in the treatment of peripheral vascular disease, illustrated with lantern slides, by Dr. Samuel Silbert. The discussion will be opened by Dr. Ludvig Eichna. Officers of the society are: president, Dr. Oscar L. Levin; president-elect, Dr. I. M. Brenner; vice-presidents, Dr. Elihu Katz and Dr. Bret Ratner; secretary, Dr. A. J. Greenberger; recording secretary, Dr. Samuel Hochman; treasurer, Dr. Joseph Q. Jonas.

Section of Obstetrics and Gynecology.—At a meeting of the section of obstetrics and gynecology of the New York Academy of Medicine to be held on Tuesday evening, January 27th, the program will be presented by the Woman's Hospital. The following papers will be presented: Uterine prolapse, its management and surgical treatment, by Dr. Ralph A. Hurd; Carcinoma of the corpus uteri, diagnosis and treatment, by Dr. George Gray Ward; Cæsarean section, advantages and disadvantages of the various surgical techniques, by Dr. James P. Marr; Maternal mortality, a consideration of common errors in the conduct of labor and delivery, by Dr. Ralph L. Barrett. A general discussion will follow. Dr. Harry Aranow is chairman, and Dr. William T. Kennedy is secretary of the session.

New York Pathological Society.—The New York Pathological Society, in affiliation with the New York Academy of Medicine, will meet on Thursday evening, January 22d. The program will consist of a symposium on Isoimmunization and the Pathogenesis of Erythroblastosis Fetalis. The following papers will be presented: Pathogenesis of erythroblastosis fetalis, by Dr. Philip Levine; Pathological aspects of erythroblastosis fetalis, by Dr. S. H. Polayes; Clinical and hematological aspects of erythroblastosis fetalis, by Dr. Peter Vogel; Isoimmunization and the prevention of intra-group transfusion accidents, by Dr. E. M. Katzin. At the close of the scientific program, an executive session will be held for the election of officers. Dr. Jean Oliver is president and Dr. John M. Pearce is secretary of the society.

New York Heart Association.—A joint session of the section of medicine of the New York Academy of Medicine and the New York Heart Association, the Heart Committee of the New York Tuberculosis and Health Association, was held on Tuesday, January 20th, with Dr. Asa Liggett Lincoln as presiding officer. Dr. Ernst P. Boas, chairman of the New York Heart Association, presented his annual report. The scientific program was as follows: Experimental and clinical studies in the use of anticoagulants in cardiovascular disease with special reference to heparin and dicoumarin, by Dr. Andrew G. Prandoni, Department of Internal Medicine, New York Post-Graduate Medical School and Hospital, Columbia University; discussed by Dr. Irving S. Wright; Some chemical changes in the myocardium accompanying heart failure, by Dr. Victor C. Myers, professor of biochemistry, Western Reserve University, Cleveland, Ohio; discussed by Dr. Maurice Bruger.

Yale Medical School Curriculum Reduced to Three Years.—Announcement was made recently by Dean Francis G. Blake, of the Yale University School of Medicine, that the school will operate the year round for the duration of the national emergency. The course will be shortened from four to three years and each year will comprise four terms of eleven weeks. Tuition for the full course will remain unchanged. Because of the reduction in time for elective work, the thesis requirement will be waived for classes graduating in 1943 and thereafter under the three-year plan, the announcement said, but the thesis will be continued as an elective. It was also announced that provision had been made to increase the enrollment of each entering class from fifty to sixty. The summer term will begin June 29, 1942.

Medical Society of the County of Queens.—At the annual meeting of this society, held on November 25th, the following officers were elected: president, Dr. Chester L. Davidson, of Jamaica; president-elect, Dr. Jacob Werne, of Jamaica; secretary, Dr. Ezra Wolff, of Forest Hills; assistant secretary, Dr. Paul Shuey, of Jackson Heights; treasurer, Dr. John J. Sheehy, of Hollis; assistant treasurer, Dr. Robert Yanover, of Flushing; historian, Dr. W. Guernsey Frey Jr., of Forest Hills; directing librarian, Dr. Elmer Kleefield, of Forest Hills; assistant directing librarian, Dr. Alfred Angrist, of Jamaica; trustees are Dr. d'Angelo, Dr. Vincent Juster, of Jamaica, and Dr. Walter Lynn, of Forest Hills.

Personal.—Dr. A. Warren Stearns, for fifteen years dean of Tufts Medical School, Boston, has joined the medical staff of the United States Naval Hospital and will be in charge of the neuropsychiatric service.

Dr. Arthur H. Compton, of the University of Chicago, was named president-elect of the American Association for the Advancement of Science at their recent annual meeting.

Dr. Kendall B. Corbin, associate professor of anatomy, histology and embryology at the College of Medicine of the University of Tennessee, has been appointed chief of the division of anatomy, histology and embryology and acting head of the department of anatomy.

Dr. Frederick A. Coller, professor of surgery, University of Michigan Medical School, Ann Arbor, will deliver the E. Starr Judd lecture at the University of Minnesota, Minneapolis.

Lucius N. Littauer Fund of New York University.—Announcement is made in *Science* that New York University has received nearly a quarter of a million dollars from Lucius N. Littauer, which is to be used to establish The Lucius N. Littauer Fund in the College of Medicine. The income will be expended, as Mr. Littauer designated, "for research in psychiatry, neurology and related fields, in order to increase and diffuse knowledge of the biological and other factors which influence thought and conduct; and thereby to prevent and correct abnormal human behavior through experimental and clinical approaches." Mr. Littauer had previously given the university nearly $120,000 for research on the prevention and cure of pneumonia, on venereal diseases, and for scholarships and fellowships in the College of Medicine, Washington Square College of Arts and Science, the College of Dentistry and other divisions of the university.

Sterilizers for Russia.—The purchase of an order of sterilizers which ultimately will total $1,500,000, will be started immediately by officials of Russian War Relief, Inc., to meet the war needs of the Soviet Union, it was announced on December 30th at the relief organization's headquarters at 535 Fifth Avenue, New York City. The sterilizers will be of two types: portable field sterilizers operated with kerosene heaters, and electrically-heated hospital sterilizers. The procurement of these two types was determined after extensive consultations with representatives of the Soviet government, the American Red Cross, OPM and Lease-Lend officials. In addition, purchases are ultimately expected to be made for large quantities of tannic acid, quinine hydrochloride, hospital field tents, x ray film, Michel wound clip applicators and removers, surgical needles, and anesthesia masks.

Clinical Society of Reconstruction Hospital.—A stated meeting of the Clinical Society of the Reconstruction Hospital, Central Park West, New York, will be held on Wednesday evening, January 21st. There will be a presentation of cases as follows: Post-dislocation destruction of head of humerus, by Dr. Henry H. Ritter; Traverse fracture through surgical neck, linear fracture of shaft of humerus, by Dr. Henry H. Ritter; Calcification of supraspinatus tendon, by Dr. Walter D. Ludlum, Jr.; Bilateral dislocation of shoulder, by Emmett A. Dooley; Secondary operation following repair of acromioclavicular separation, by Dr. David Goldblatt. The paper of the evening will be read by Dr. Harry V. Spaulding, on the Traumatic Shoulder. Dr. Spaulding will present cases to illustrate this paper. Dr. David Goldblatt is chairman.

National Social Hygiene Day.—"Keep America Strong, Help Build Better Health," is the theme for the sixth National Social Hygiene Day throughout the country on February 4th. Stress will be placed on the need for intensified action against syphilis and gonorrhea in industrial centers as well as military areas. Special attention will be directed toward the full realization of the menace of organized prostitution in areas adjacent to concentrations of armed forces and in industrial centers. Additional information concerning national and local programs may be received from the American Social Hygiene Association, Inc., 1790 Broadway, New York.

Medical and Surgical Relief for America.—Eight emergency medical field sets, each consisting of two portable cases completely equipped with supplies were sent on January 2d to the Medical Directors of the Second Civilian Defense Region, comprising New York, New Jersey and Delaware, by the Medical and Surgical Relief Committee of America, 420 Lexington Avenue, New York, N. Y. According to Mrs. Rogers Balcom, executive chairman, plans are now being made for a nation-wide campaign to provide quantities of the sets to officials in each of the nine civilian defense regions set up by the Office of Civilian Defense. Seven hundred twenty-four will be required to meet the estimated needs of New York City alone. Each set consists of two portable cases completely equipped with instruments and supplies. They will be placed in hospitals and first aid posts in target areas for the use of doctors, nurses and nurses' aides who can readily transport them to potential points of disaster.

Latin-American Publishing Company.—In conjunction with our policy of improving relations with Latin-America and to help our southern neighbors to replace French, German, Italian and Spanish technical and scientific books, the Chemical Publishing Co., Inc., Brooklyn, N. Y., has formed a Latin-American Publishing Co., called Editorial Tecnica Unida. The latter has already published thirty-seven bulletins and twelve books, and twenty additional books are in process. The subjects of these bulletins and books, which are printed in Spanish and Portuguese, are aeronautics, engineering, industrial processes, metals and metal working, agriculture, chemistry and formularies; also commercial, technical and military dictionaries.

The editor-in-chief of this division is Dr. Antonio Guerrero, who is a graduate of the University of Madrid and holds degrees in chemical, electrical and mechanical engineering.

International and Spanish Speaking Association of Physicians.—The seventeenth annual meeting of this organization was held Friday evening, January 16th, at Pythian Temple, New York. The guest of honor was the Consul General of Chile in New York City. At the executive session Dr. J. M. Gershberg presented the annual message of the president, and the chairman of the board of directors, and the general secretary and treasurer presented their annual reports. The program for the scientific session consisted of a symposium on Heredity in Eugenics and Medicine, as follows: Dr. A. B. Doyle, Stanford University, San Francisco, Cal., Heredity and Longevity; Dr. G. W. Henry, Cornell University Medical School, New York, N. Y., Heredity and Homosexuality; Dr. L. Wender, Heredity and Insanity; Dr. A. N. Foxe, Heredity and Criminality; Dr. A. Weisman, Heredity and Sterility. Among those who participated in the discussion were: Drs. R. M. Cushing, W. Eliasberg, J. Wilder, S. E. Witt, and A. Stone. After the meeting a reception and concert was held at the home of the president, 333 Central Park West, New York, N. Y.

Bibliography of Pharmacology and Chemotherapy.—Beginning with Volume 3 (1942) the name of the *Bibliography of Pharmacology* is changed to *Bibliography of Pharmacology and Chemotherapy*. No change in scope is contemplated; "Chemotherapy" is added only to make the title more accurately descriptive. The *Bibliography's* field is defined thus:

"A reference list of current American and foreign literature relating to the action of known chemical compounds (natural or synthetic) on animal organisms and to therapeutic use of such compounds, including clinical investigations but not routine clinical and case reports."

Format will be modified by heading each entry with a blank line for insertion of the subscriber's own index heading, as an aid to those who mount clipped *Bibliography* items on index cards. Below this line each entry will begin with an optional index heading (in capitals) selected by the compiler.

The annual subscription rate is $3.50, or $2.50 to members of the *Friends of the Hooker Scientific Library*. Requests for more information or for a specimen page may be addressed to the Hooker Scientific Library, Central College, Fayette, Missouri.

Postgraduate Medical Assembly.—The fifty-seventh annual session of the Mid-South Postgraduate Medical Assembly will be held in Memphis, Tenn., February 10th to 13th. This assembly was formerly known as the Tri-States Medical Association, organized in 1883. A change in name was made in 1931. The program will consist of the presentation of scientific papers and round table luncheons. Twenty-four papers are listed on the program and the authors include the following: Dr. Ludwig A. Emge, San Francisco, Calif.; Dr. Francis L. Lederer, Chicago, Ill.; Dr. Philip M. Stimson, New York, N. Y.; Dr. Francis M. Rackemann, Boston, Mass.; Dr. A. D. Ruedemann, Cleveland, Ohio; Dr. Irvine H. Page, Indianapolis, Ind.; Dr. W. Wayne Babcock, Philadelphia, Pa.; Dr. Reed N. Nesbit, Ann Arbor, Mich.; Dr. David C. Wilson, Charlottesville, Va.; Dr. Harry E. Bacon, Philadelphia, Pa.; Dr. F. W. Konzelmann, Philadelphia, Pa.; Dr. Frank N. Wilson, Ann Arbor, Mich.; Dr. Warren H. Cole, Chicago, Ill.; Dr. Stanley Gibson, Chicago, Ill.; Dr. Burrill B. Crohn, New York, N. Y.; Dr. Walter T. Dannreuther, New York, N. Y.; Dr. Eugene P. Pendergrass, Philadelphia, Pa.; Dr. Leroy A. Schall, Boston, Mass.; Dr. Deryl Hart, Durham, N. C.; Dr. H. F. Kane, Washington, D. C.; Dr. E. K. Marshall, Jr., Baltimore, Md.; Dr. J. Albert Key, St. Louis, Mo.; Dr. C. J. Barborka, Chicago, Ill.; and Dr. John J. Pemberton, Rochester, Minn. A new feature of this program will be the elimination of the diescussion of papers as they are presented. Round table luncheons will be held on the four days of the meeting for purposes of discussion. Especially interesting groups of technical and scientific exhibits are being arranged. The officers are as follows: president, Dr. C. M. Speck, Whitfield, Miss.; president-elect, Dr. C. H. Lutterloh, Hot Springs, Ark.; first vice-president, Dr. J. J. Kazar, Tchula, Miss.; second vice-president, Dr. F. H. Jones, Piggott, Ark.; third vice-president, Dr. John Jackson, Dver, Tenn.; secretary-treasurer, Dr. A. F. Cooper, Memphis, Tenn.

New Orleans Graduate Medical Assembly.—The sixth annual meeting of the New Orleans Graduate Medical Assembly will be held in New Orleans on March 2, 3, 4, and 5, 1942. There will be four days of intensive postgraduate education conducted by eighteen outstanding medical authorities. The program will consist of lectures, clinics, symposia, clinicopathological conferences, scientific and technical exhibits, medical motion pictures and round table luncheons. Among the guest speakers are the following:

Anesthesiology: Dr. Charles F. McCuskey, associate professor of anesthesiology, University of Southern California School of Medicine, Los Angeles, Calif.

Cardiology: Dr. Frank N. Wilson, professor of internal medicine, University of Michigan Medical School, Ann Arbor, Mich.

Dermatology: Dr. Charles C. Dennie, professor of clinical dermatology and chairman of the department, University of Kansas School of Medicine, Lawrence-Kansas City, Kansas.

Gastroenterology: Dr. Russell S. Boles, president of the American Gastroenterological Association.

Gynecology: Dr. Edwin C. Hamblen, associate professor of obstetrics and gynecology, Duke University School of Medicine, Durham, N. C.

Medicine: Dr. William B. Porter, professor of the theory and practice of medicine, Medical College of Virginia, Richmond, Va.

Medicine: Dr. William H. Sebrell, chief of the division of chemotherapy, National Institute of Health, Washington, D. C.

Neuropsychiatry: Dr. Raymond W. Waggoner, professor of psychiatry, University of Michigan Medical School, Ann Arbor, Mich.

Obstetrics: Dr. Samuel A. Cosgrove, professor of clinical obstetrics, Faculty of Medicine, Columbia University, New York, N. Y.

Ophthalmology: Dr. Albert D. Ruedemann, head of the department of ophthalmology, Cleveland Clinic.

Orthopedic Surgery: Dr. Franklin D. Dickson, associate professor of clinical surgery, University of Kansas School of Medicine, Lawrence-Kansas, Kansas.

Otolaryngology: Dr. Thomas E. Carmody, president of the American Laryngological Association.

Pathology: Dr. Harry P. Smith, professor of pathology, State University of Iowa College of Medicine, Iowa City, Iowa.

Pediatrics: Dr. Irvine McQuarrie, professor of pediatrics, University of Minnesota Medical School, Minneapolis, Minn.

Radiology: Dr. Ross Golden, professor of radiology, Columbia University College of Physicians and Surgeons, New York, N. Y.

Military Surgery: Col. Norman T. Kirk, Medical Corps, United States Army.

Surgery: Dr. Frank H. Lahey, director of surgery, Lahey Clinic, Boston, Mass.

Urology, Dr. Alexander Randall, professor of urology, University of Pennsylvania School of Medicine, Philadelphia, Pa.

SOUTHERN CALIFORNIA MEDICINE

JOHN WILLIAM SHUMAN, SR.
Los Angeles, Calif.

(*Continued from page 32*)

At the third annual meeting of the California State Medical Society (A. B. Stout, president, April 1, 1873) J. R. Morris of San Francisco introduced this resolution: "The state medical society desiring to see a system adopted by which a high liberal standard of medical ideals and graduates may be secured, has heard with great pleasure that the State University contemplates an independent board of medical examiners. I make a motion that this society endorse the same." The motion was lost. But at the next annual meeting (April, 1874) H. Gibbons, Sr., introduced this motion: "It is desirable that there should be a uniform system for examination for the degree of Doctor of Medicine, apart from institutions of teaching, so that diplomas shall be awarded to all competent candidates; and that the profession and society at large may be protected against degrees awarded unworthy and incompetent persons."

This motion which also provided for the appointment of a committee of five to carry it out, was carried. This committee reported at the following annual meeting (April, 1875) through its chairman, T. M. Logan of Sacramento, the secretary of the state board of health: "We recommend to the legislature of the State of California to pass a law for examination of doctors of medicine." This was amended by Gibbons, Sr., "To include the motion of the previous year." The amendment was carried and a committee was appointed, composed of Doctors Morse, Shurtlegg, Logan, Gibbons and Heuston.

The legislature proceeded to pass an act to regulate the practice of medicine in the State of California (1876). This was called the Senate Bill number five hundred and forty-nine and was introduced by Doctor C. W. Bush of Los Angeles. It was passed without roll call, although five members asked to have their names recorded as voting in the negative. The assembly vote was, ayes, forty-five, nays, eighteen. Our fathers in medicine then put their trust in a licensing system, "to preserve a well educated profession for the good of humanity". We shall see if their hopes have been fulfilled.

Medical Practice Act of 1876

This act provided for the appointing of a board of medical examiners of seven members by each state medical society, incorporated and in active existence on the tenth day of March, 1876. There were two such societies, namely the Medical Society of the State of California (founded in 1870) and the Eclectic Medical Society (founded in 1874).

The law held that each individual practicing medicine had to present a medical diploma to this board of medical examiners for verification as to its genuineness. If the diploma was genuine a certificate to practice was granted. If a practitioner had no diploma, he was to be examined by the board. If he was considered sufficiently well qualified to practice, a certificate was issued. This privilege of examination for "non diploma holders" expired December 1, 1876.

The board was further enjoined to notify all county clerks that they were to keep a record of all licensed medical practitioners in their respective counties. The fees received by the examining board were to be turned over to the two medical societies. Procedure for verification, refusal, or revocation of license and a penalty for illegal practice was provided. Revocation could follow unprofessional and dishonorable conduct—the details not entered into.

This law of 1876 was amended to include the Homeopathic Medical Society (founded 1877), which made three licensing boards, each appointed by and responsible to one of the three state medical societies. This amendment also required an affidavit executed by each applicant presenting a diploma, stating that the medical institution granting the diploma was at the stated time a legally incorporated institution in the business of medical education.

This amendment attempted to discourage itinerant practitioners by charging them a license fee of one hundred dollars a month. These three boards finally became one examining board.

Three Boards As One (1901)

Dr. S. W. Hasson of Orange County introduced a bill which the legislature passed, voting ayes, sixty; nays, two. The senate voted ayes, twenty-two; nays, five. It became a law without the governor's approval (February 27, 1901). This law established one board of seven members, five elected by the regular medical society of the state, two by the Homeopathic Medical Society and two by the Eclectic Medical Society. The law stipulated that six affirmative votes were required for any act or resolution.

This new law tried to force the adherents of the different schools of practice into accord. It did cause the applicants to increase. The applicants had to submit: 1, testimonials of good moral character; 2, a diploma issued by a regularly chartered medical school conforming with the standards of the association of the American medical colleges; 3, an affidavit stating that the holder was the legal possessor of the diploma submitted; 4, and to a personal examination by the board, a part of which was to be written.

Certificates issued by the District of Columbia or any state or territory of the United States whose standards were equal to those of California were acceptable. Procedures of revocation of license were set forth, together with the compulsory filing of certificates with the county clerks. Unprofessional conduct (seven items) and illegal practice were defined. This law ruled for six years.

Los Angeles County Medical Association

In this short historical review of the Los Angeles County Medical Association the following works have been consulted: "The Minute Books" of the Los Angeles County Medical Association (275-6 and 7); "The Year Books" of the Los Angeles County Medical Association (1900-1926); and personal communications and interviews.

Introduction: Lamf Begat Lacma

Lamf[1] was only twenty-one years of age when he died and when his only progeny, Lacma[2] was born (1871). The sire was typical of his time (1850), being adventurous, rugged and sterling, a typical "forty-niner". There were many of those early Californians who enjoyed a busy, interesting, short and sweet career, only to pass out of the picture of life, by accident, disease or duel, leaving a pleasant memory and perhaps a progeny or two. Those early days yield the terse story of a young chap who, drilled by the bullet of an antagonist, was lamenting his early demise. His pard drawled these comforting words: "Hell, Bill, you didn't expect to live always, did ya?"

Fathers are often of little more use than to beget. The fathers of Washington, Lincoln and Wilson are unknown to history, so there is little wonder that the father of Lacma has received scant attention and mention from California medical historians. The latter has so eclipsed his sire in years, progeny, and all things material that the fountain seems to have risen higher than its source.

In years Lacma has registered seventy and is still going strong. His progeny is numerous, the Crown Prince being Scma[3] and others too numerous to mention (see table of societies in Los Angeles County and hereabout). In this respect Lacma resembles that venerable Sheikh of Palmyra, Syria, who admitted, "I have begotten twenty-four sons and Allah permitting there will be more this year!"

Regarding the material things, Lacma boasts of skill equal to that of his progenitor, whom he knew only through his father's dearly beloved friend and physician, Richard Somerset Den. Lacma considers that scientifically there is no comparison between him and his forbears. Children are more or less like that and fathers forgive them. Financially Lacma is a multimillionaire. Politically he is one of the powers that be. A short historical review of Lacma's order of business follows.

Roll Call

"Wisdom hath builded her house,
She hath hewn out her seven pillars." *Proverbs.*

The origin of medicine is as mythical as man. Sometime someone will write the evolution of the doctor of medicine. That story will contain much of the medical society which he made, and which has made him. Just how well the first medical society in the state (Los Angeles Faculty of Medicine) functioned is problematical. At any rate there was the necessity for a new one, for it was formed, founded and still functions.

In 1871 when the first roll call of the new Los Angeles County Medical Association was called, seven voices answered "Here!" The American Medical Association had organized in 1847 but did not get well under way until three years later. It advocated state medical societies. The California State Medical Association was organized soon thereafter (1856). From those ancient days until the combined efforts of the American Medical Association and the State Association (1901) there were but few county societies except in a few of the states and local organization. They were to be found only in the larger cities. The membership of such societies consisted of an exceedingly small fraction of the physicians in each locality.

The Los Angeles County Medical Association filled a need which was felt by the physicians of the Angelic city long before the eventful historical postholiday meeting (January 25, 1871) in Dr. Henry Orme's offices. Although "The Seven Pillars of Medical Wisdom" were not the only doctors in the county who were qualified, as far as medical college diplomas were concerned, they were not the only ones who wanted to join; history has it they were the doctors who gave the society its origin, officiated at its birth and did for the most part attend to its wants until it was well through adolescence.

These seven men who organized the Los Angeles County Association did so in an effort to raise the standard of regular medicine, not only in this locality but also throughout the state. Their names are worthy of a tablet of bronze: 1, John S. Griffin, president; 2, Russel T. Hayes, vice-president; 3, Levi L. Dorr, secretary; 4, Henry S. Orme, treasurer; 5, Joseph P. Widney, censor; 6, William F. Edgar, censor; 7, Thomas H. Rose, censor.

Notice that they all held official positions. The following year Doctors Dorr and Rose both moved away from the city because better opportunities were offered them elsewhere. We are all surprised that our honored nestor, Richard S. Den, was not among those present, but when we remember that he was a founder of the first society and was made an honorary member (1893) of the new society, that is sufficient evidence that he was qualified to have been one of the founders if he had so desired.

Scarcely had that holiday season of Christmas and New Year festivities passed, when a "get-together" or preliminary meeting was held at the office of Doctor Orme, with only four doctors present: Edgar, Hayes, Orme and Widney. The eldest, gravest, and most sedate (Edgar) was chosen as the chairman *pro tem.* He was the first man to call the new society "to order". Small as was the society, its members thought that they had momentous questions to decide.

Edgar appointed Hayes and Orme to draft a constitution and by-laws. This same constitution, with a few revisions (February and July, 1891) is working today, a fact which shows how well the work was done.

In the seventy years which have elapsed since the organization of the Los Angeles County Medical Association, the changes which have been made in the original constitution and in the provisions regarding membership may interest the present day members of the association. The old one was as follows:

Constitution and By-Laws of the Los Angeles County Medical Association, Organized January 31, 1871

Constitution

ARTICLE I: This association shall be called the Los Angeles County Medical Association.

ARTICLE II. The object of the association shall be:

1. The cultivation and advancement of the science of medicine by united exertions for mutual improvement and contributions to medical literature.

2. The promotion of the character, interests and honor of the fraternity by maintaining the union and harmony of the regular profession of the county, and

[1]Los Angeles Medical Faculty.
[2]Los Angeles County Medical Association.
[3]Southern California Medical Association.

aiming to elevate the standard of the medical education.

3. The separation of regular from irregular practitioners.

4. The association of the profession proper for purposes of mutual recognition and fellowship.

ARTICLE III: The members shall be graduates of a recognized medical college, and shall be in good moral and professional standing. They shall be proposed in writing, at a regular meeting by two members of the Association and may be elected by a majority vote at any subsequent meeting.

ARTICLE IV: No empirical or irregular practitioner nor any practitioner who shall consult with or recognize professionally any such irregular practitioner shall either be admitted to or retained in the membership of this Association.

ARTICLE V: The officers of this Association shall consist of a president, a vice-president, a treasurer, and a secretary, who shall be elected semi-annually at the first meetings in January and July of each year by a majority vote of the members present. No member shall be eligible to the office of president for two successive terms.

ARTICLE VI: There shall be a Board of Censors consisting of three appointed semiannually by the president.

ARTICLE VII: The Association hereby reserves the right of punishing violations of its regulations with the concurrent vote of three fourths of the members present at any regular meeting by reprimand, suspension or expulsion, and no member who shall have been expelled shall be again admitted to membership.

Any member who shall have removed permanently from the county shall be considered as having vacated his membership and his certificate at any time thereafter may be recalled.

Amendment 8: See proceedings, March 7, 1871.

ARTICLE VIII: Any regular physician in good standing may be made an honorary member of the Association under the same rules of election as regular members. Honorary members shall have the privilege of taking part in all medical discussions, but shall have no vote or voice in the business of the Association and shall be subject to no dues or fines.

At that first meeting the temporary president, Edgar, appointed Griffin and himself a committee on credentials, thinking no doubt that with two sterling ex-army surgeons passing on the credentials of a candidate and three soundly educated censors checking their recommendations, history would have record of few unfits making the grade to membership.

Six days later (the 31st) the first regular meeting was held. This was the natal night of the society. At this meeting officers were elected, committees reported and their reports approved. At this meeting it was decided to have an initiation fee of two dollars and annual dues of six dollars.

These early meetings were held by turn in the offices of the different members, the first few convening in the joint offices of Griffin and Widney, who were partners.

A later secretary, Bert Ellis, reported, at an annual meeting (December, 1891): "Of those seven founders, Griffin, Orme and Widney are still active members. Edgar is residing in the city. He has retired and is no longer on the list of active members of the society." Doctor Edgar was then made an honorary member of the society. His health, broken during his army service as elsewhere related, prevented his attendance at many of the meetings.

The first twenty years of the Los Angeles County Medical Association were the hardest. Some said it endured "a hand to mouth existence" during that period. Although at times the society became so lethargic that it appeared dead, in reality it was only sleeping.

The custom of the society in its infant days was to have each new member sign his name on the roll book, and write after it his Alma Mater, with date of graduation (in the "minute book"). On page five of that book appears the historical evidence shown in the following tables.

Table I: A Page of the Minute Book of the Society

DATE OF JOINING	NAME	COLLEGE	DATE OF GRADUATION
Feb. 7, 1871	William T. Edgar	Medical Department, Univ. of Louisville	1847
Feb. 7, 1871	R. T. Hayes	College of Physicians and Surgeons, New York	1869
Feb. 7, 1871	Henry S. Orme	Castlewon Medical College	1847
Feb. 7, 1871	J. P. Widney	Univ. of N. Y.	1861
		Toland Medical College, San Francisco, Cal.	1866
Feb. 11, 1871	L. L. Dorr	Bellevue Hospital Medical College, New York	1866 (Removed from Co. 1872)
Feb. 7, 1871	T. H. Rose	Berkshire Medical College, Mass.	(Removed from Co. 1872)
Feb. 7, 1871	John S. Griffin	U. of Penna.	1837
Apr. 4, 1871	R. M. Wallace	(Honorary Member)	
Oct. 8, 1875	R. H. Dalton	U. of Penna.	1831
Oct. 8, 1875	Albert Thompson	Univ. of Mich.	1864
Oct. 8, 1875	Eli H. Colles	Univ. of Mich.	1859 (Removed from Co.)
Nov. 2, 1875	D. B. Hoffman	Toland Medical College, Cal.	1867 (Removed from Co.)
Dec. 7, 1875	J. H. McKee	U. of Nashville, Tenn.	1867
Jan. 4, 1876	L. W. Brooks	Stirling Medical College, Ohio	
Jan. 4, 1876	W. S. Herdman	Toland Med. Coll.	
Jan. 4, 1876	Henry Worthington	Coll. of Physicians and Surgeons	1874
Jan. 4, 1876	Joseph Kurtz	Toland Med. Coll.	1872
Apr. 4, 1876	Thom. Richmond	Vir. Medical Coll.	
May. 2, 1876	M. S. Jones	St. Louis Medical College	1869
June 22, 1876	J. E. Fulton	Univ. of Nashville	1869
Oct. 2, 1876	G. A. Babbit	L. I. College Hospital	1875
Oct. 2, 1876	Walter Lindley	L. I. College Hospital	1875
Nov. 6, 1876	Chas. Barton	Bellevue Hospital	1873
Feb. 6, 1877	W. Lockhard	Jefferson Medical College	1854
Mar. 7, 1877	L. H. Nadeau	Coll. of Physicians and Surgeons, Montreal	1862
Apr. 3, 1877	Henry B. Lathrop	L. I. College Hospital	1875
June 5, 1877	Joseph Hanson	Univ. of N. Y.	1860
Sept. 10, 1877	F. S. Whaley	Keokuk College of Physicians & Surgeons, Canada	1874
Jan. 4, 1878	S. W. Hereford	Penna. Univ.	1877

Jan.	4, 1878	Nelson S. Giberson	Jefferson Medical College 1876
Jan.	4, 1878	Lucius McGuire	Toland Med. Coll. 1868
Apr.	5, 1878	Samuel J. Coelntt	Toland Med. Coll. 1868
Apr.	5, 1878	Tiberus C. Gale	Ohio Med. Coll... 1842
Sept.	6, 1878	Alice Higgins	Medical College Pacific 1878
Sept.	6, 1878	A. V. McFarland	Rush Med. Coll. . 1872 Berkshire Medical College 1874
Sept.	6, 1878	G. D. Kellogg	Royal Coll. of Surgeons, Edinburgh, Scotland.. 1848
Nov.	1878	Pigne Dupuytren	

Table II: District Branch, and Other Section Societies

SECTIONS	ORGANIZED WITH	PRESIDENT	SECRETARY
So. California Med. Society (Scma)	June 8, 1888	M. F. Price	W. B. Cochran
So. California Homeo. Med. Society	Dec. 9, 1890	H. R. Arndt	Unknown
Eclectic Soc..	Apr. 21, 1897	T. K. Kelleghan	O. C. Welbourn

BRANCHES	ORGANIZED WITH	PRESIDENT	SECRETARY
Pasadena	1888	A. H. Davis	Rowland
Santa Monica	1907	P. S. Lindsey	W. S. Smith
Harbor.....	1905	H. O. Bates	J. M. Holden

SECTIONS	ORGANIZED WITH	PRESIDENT	SECRETARY
Acad. of Med..	July 8, 1899	Newkirk	
Clinical Path.	Dec. 12, 1903	A. S. Lobinger	R. D. Bullard
Symposium...	Oct. 1905	H. McNeil	Dudley Fulton
Eye and Ear.	Apr. 11, 1905	Wm. Babcock	F. W. Miller
Obstetrical....	Feb. 6, 1906	M. L. Moore	L. G. McNeile

The membership of the County Medical Society was constantly shifting on account of removals, deaths, and nonpayment of dues. For example, men like Griffin, Bryson and E. T. Shoemaker were dropped from the rolls because of simple neglect to mail in a check. Later they paid up and were reinstated. Roll call has of necessity been dropped in late years. The membership is so large that such a procedure would take up a whole evening.

Much time and energy have been expended in discussing attendance at medical meetings the world over, particularly as to ways and means of increasing it and keeping it up to par. In the late seventies something was done about the attendance at meetings of the County Medical Society. The minutes of the Society record that a meeting was held at the office of the secretary and a resolution passed declaring the office of president vacant because of nonattendance. The next year there was but one meeting of the society, and no officers were elected, the answers at roll call being so few. This was one of the times, heretofore mentioned, when the life of the organization was thought to be almost extinct. Nevertheless the patient weathered the illness.

Finally the following resolution was entered on the minutes: "Resolved, that any member of this society absenting himself for three successive meetings be dropped from the list of members". This acted like a transfusion; new vigor was taken on and the roll of members increased. Each member took a more active part in the society's work.

Minutes

The following is a review of the minutes of the Association. In the early days typewriters were not in existence. Hence handwriting (doctors are notoriously poor scribes) made this history questing more interesting. A constant minute was, "The minutes of the previous meeting were read and approved". With this as a key, the deciphering was done much like that of an Assyrian or Babylonian tablet.

(To be continued)

THE CURIOUS STORY OF "MUMMY"

WILLIAM RENWICK RIDDELL

Toronto, Canada

About three hundred and fifty years ago, in old England, Richard Hukluyt bitterly complained of physicians and apothecaries compelling patients against their will to swallow dead bodies (1). By this he meant mummy, Mummia, and there can be no doubt that in the Middle Ages; and, indeed, long after their close, this was a favorite medicine.

The word "mumia", with the original meaning "wax", came to be applied to bitumin, and bitumin appears to have been almost a panacea with some of the ancients. For example, the Romans, according to Pliny, used it for cataract, skin diseases, lichea, leprosy, itch, also for gout, for eye complaints, coughs and even dysentery.

Diodorus Siculus tells us it was exported to Egypt where it was used in embalming the dead, but this seems to be an error; at least, modern chemists have never detected it. But this belief led to the practice of using the word for the preserved body, rather than the preserving material.

That the use of the preserved Egyptian body as a drug early became practically universal in European countries is proved by early medical writers. The celebrated Ambroise Paré indeed most strongly condemned its use, calling it a "wicked kind of drugs" (2). But the use of embalmed bodies from Egypt became so increased, and the prohibition of the Egyptian Government interfering with the supply, superior substitutes were manufactured. The bodies of slaves and others available were opened and filled with bitumin through the natural openings and incisions, the bodies then being bandaged and dried in the sun. The fact of the death having been caused by the plague or other disease does not seem to have been of any importance.

The medical qualities originally attached to the substance used in embalming were at length transferred to the embalmed flesh and it was to this that the word "mummy" came to be applied; and not unnaturally the embalmed flesh of any living creature received the name.

Its disappearance from medicine, I have not been able to trace.

References

1. *The Principal Narrations, Voyages and Discoveries of the English Nation,* Vol. ii, p. 201.
2. *The Workes of That Famous Chirurgion, Ambroise Paré.* London: 1634, p. 448.

OSGOODE HALL

Book Reviews

Digestive Disorders

Diseases of the Digestive System. By SIDNEY A. PORTIS, B.S., M.D., F.A.C.P., Associate Clinical Professor of Medicine, Rush Medical College of the University of Chicago; Attending Physician, Michael Reese Hospital, Chicago. Illustrated with 176 engravings. Philadelphia: Lea & Febiger, 1941. Pp. 952. Price $10.00.

Gastroenterology has progressed so rapidly during this generation that the time-honored method of presenting the subject as a disease of the stomach, esophagus, gallbladder and colon is archaic. The modern practitioner first in the field must be trained in the laboratory to be in command of diagnostic procedures and be versed in internal medicine to establish necessary correlations. Consequently, it took fifty contributors in various branches of the field to unravel the modern aspects applicable to everyday practice of digestive disorders. After a brief summary of the history of anatomy and physiology in part one, the etiological factors involved in digestive disorders are considered in great detail. In part two, the diseases of the esophagus, stomach and duodenum are presented by an authority in each field. The entire field is interpreted from a functional viewpoint, for necropsy evidence can no longer constitute the guide to early manifestations of disease. Special emphasis is laid upon suggestive symptomatology leading to full-fledged disease. In each chapter there is great detail on proved methods of treatment. The vividness with which each digestive disorder is presented makes this the first book of its kind that can truly be recommended to the practitioner seeking a complete survey of the field.

Geriatrics

The Care of the Aged (Geriatrics). By MALFORD W. THEWLIS, M.D., Attending Specialist, General Medicine, United States Public Health Hospitals, New York City; Attending Physician, South County Hospital, Wakefield, R. I.; Special Consultant, Rhode Island Department of Public Health. Third Edition, entirely rewritten. With fifty illustrations. St. Louis: The C. V. Mosby Company, 1941. Pp. 579. Price, $6.00.

The first edition of this book appeared in 1919 shortly after the publication of the pioneer work on this subject by I. L. Nascher, M.D., to whom this third edition is dedicated. The second edition (reviewed in MEDICAL JOURNAL AND RECORD, 119:472, 1924) published in 1924 under the title *Geriatrics,* has been amplified and modernized in this third edition by the inclusion of many new sections and material from the several journal articles of the author. Among the many recent scientific developments included are the applications of the modern chemotherapeutic, vitamin, and hormone products to the treatment of the aged.

The matter is in logical arrangement with an adequate index, making the book valuable as a guide to the treatment of each condition to which the senescent individual is subject. References appended to each section lead the reader to sources of more detailed information.

There is no attempt to cover the purely biological aspects of senescence so well reviewed in the several recent symposia on this subject. The author has adhered to the policy of former editions by presenting the practical clinical problems encountered in the care of the aged. The increasing number of old people in the general population makes essential to the general practitioner and the specialist a reference text on this subject. *The Care of the Aged* is the only modern book on geriatrics.

Epilepsy

Science and Seizures. New Light on Epilepsy and Migraine. By WILLIAM GORDON LENNOX, M.D., Sc.D. Hon., Assistant Professor of Neurology, Harvard University Medical School; president, International League against Epilepsy. With ten illustrations. New York and London: Harper & Brothers, 1941. Pp. 258. Price, $2.00.

Sponsored by the Laymen's League against Epilepsy, this volume attempts to present the main facts—historical, statistical, anatomical, pathological, etiological, physiological, pharmacological, therapeutic, psychological, eugenic, and sociological—concerning epilepsy and migraine in a manner at once useful to the physician and nurse and understandable to the intelligent layman subject to seizures.

As in the case of manuals for diabetics, and for cardiac patients and of other popularized medical texts designed for the doctor and patient, the author has had difficulty in maintaining a middle-of-the-road course, including much that is incomprehensible to the layman and much that is elementary to the physician, favoring, however, the layman's point of view. No doubt Dr. Lennox is depending on his detailed textbook on *Epilepsy* which is soon to be published, to bring to the physician in scientific form the present status of the subject.

The many classical and historical references contribute to the general interest and readability of the text. Although there are for the specialist more complete reviews of epilepsy and migraine, the general practitioner and layman will find in this volume much of value in the care of the individual subject to convulsive or headache seizures.

Diagnosis

Symptoms in Diagnosis. By JONATHAN CAMPBELL MEAKINS, M.D., LL.D., professor of medicine and director of the department of medicine, McGill University; physician-in-chief, Royal Victoria Hospital, Montreal; formerly professor of therapeutics and clinical medicine, University of Edinburgh; Fellow of the Royal Society of Edinburgh, etc. Illustrated. Boston: Little, Brown and Company, 1941. Pp. 323. Price $4.00.

In recent years a few books have been written on symptoms. Yet symptoms bring the patient to the physician. The proper interpretation either leads to correct diagnosis or outlines the road to aid from special techniques. Correct interpretation thus saves the patient mental and bodily discomfort as well as financial burden. A good physician is one who uses the least number of laboratory procedures to arrive at the correct diagnosis. Unfortunately, the practice of putting the patient "through the mill" is confused with thoroughness. Recent methods in physiological methods have revealed the fundamental mechanisms of many symptoms such as dyspnea, orthopnea, cyanosis, nausea, vomiting, unconsciousness and pain. If we understand the physiology of any of these symptoms, we can promptly evaluate their significance. It enables us to probe with greater precision the morbid processes within the body. The author has achieved this very purpose in the concise interpretation of common symptoms.

Mental Hygiene

Mental Hygiene in Education. By ERNEST W. TIEGS, Ph.D., Dean of University College and Professor of Education, University of Southern California, and BARNEY KATZ, Ph.D., Lecturer in Psychology, The University of Southern California. Illustrated. New York: The Ronald Press Company, 1941. Pp. 418. Price $2.75.

This is one of the most complete books that has been written on the subject of mental hygiene in education, and contains practically every avenue of approach to the problems that one finds among the students of educational institutions.

Perhaps a chapter should have been added dealing with mental hygiene for educators. This is really important, for one should make sure that the teacher is not a confused personality trying to inflict on the students warped ideas of personality.

On the whole we have no quarrel with the book or its contents, and any teacher could well read it and gain much good from it. We do feel, however, that a great many of the more primitive theories of personality could have been omitted, but from an historic point of view, perhaps there is no harm in including them. What we like mainly about the book is that it takes full cognizance of environmental conditions and, on the whole, is not too dogmatic in its assumptions of what to do at a given moment in a given situation. We believe this book will find a wide field of usefulness.

Diseases of Children

Lectures on Diseases of Children. By SIR ROBERT HUTCHISON, Bart., M.D., LL.D., F.R.C.P., Consulting Physician to the London Hospital and to the Hospital for Sick Children, and ALAN MONCRIEFF, M.D., F.R.C.P., Physician to the Children's Department Middlesex Hospital and to Outpatients, Hospital for Sick Children. Eighth Edition. A. William Wood Book. Baltimore: The Williams & Wilkins Company, 1940. Pp. 471. Price $6.75.

This series of lectures, delivered by Sir Robert Hutchison, represents a systematic course at the London Hospital and was published serially in the *Clinical Journal.* The approach is clinical, the presentation clear and the treatment detailed. After considering the clinical examination of sick children, the junior author discusses infant feeding, newborn and infant disorders and finally a sequential series of systemic manifestations in childhood, striking lectures on blood disorders of early life, chronic splenomegaly, diagnostic significance of symptoms, fever of obscure origin and disorders of growth and development. The book is well illustrated and makes good reading for both student and practitioner.

Undulant Fever

Brucellosis (Undulant Fever), Clinical and Subclinical. By HAROLD J. HARRIS, M.D., Health Officer, Westport, N. Y.; Consulting Physician, St. Lawrence State Hospital; Attending Physician, Elizabethtown Community Hospital; Lieutenant Commander, Medical Corps, United States Naval Reserve. New York and London: Paul B. Hoeber, Inc., 1941, pp. 286, $5.50.

Brucellosis is the very select name for undulant fever. This book is timely; the incidence of undulant fever is far greater than is generally known and it is not uncommon to find the condition diagnosed as fifty other things. Whether the incidence of the disease is more common than it has been in the past, it is difficult to say, but undulant fever is being discovered in greater and greater incidence, due perhaps to a recognition of its widespread prevalence and better methods of diagnostic procedure.

We feel that the major importance of this new volume is to impress upon the practitioner the widespread incidence and importance of the condition, and perhaps encourage a more careful check of patients who might be affected with it. Fortunately for man, the disease is not frequently fatal, but it is widely prevalent in regions where cattle and milk products are handled.

On the black side of the picture is the approach of a specific therapy. The treatment of the disease with the sulfanilamides is now being studied but it is too early to determine if this will prove better than the older forms of treatment or not. Perhaps more widespread recognition of the incidence of the disease will lead to more careful prophylactic measures in out-of-the-way places where they have hitherto been more or less neglected.

Dorland's Dictionary

The American Illustrated Medical Dictionary. A complete dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry, nursing, veterinary science, biology, medical biography, etc., with the Pronunciation, Derivation, and Definition. By W. A. NEWMAN DORLAND, A.M., M.D., F.A.C.S., Lieut-Colonel U. S. Army, Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association. Nineteenth Edition, Revised and Enlarged with 914 Illustrations, Including 269 Portraits. With the collaboration of E. C. L. MILLER, M.D., Medical College of Virginia. Philadelphia and London: W. B. Saunders Company, 1941. Pp. 1647. Price, plain, $7.00; thumb-indexed, $7.50.

Some people are passionately fond of dictionaries and some like one breed of dictionary better than another. This general bias is marked in the medical field.

Personally, we like Dorland and are always happy to get a new edition and this is the nineteenth of Dorland's. We are told that two thousand new words have been added. We have not checked on this but assume it to be correct.

Usually we can find a new word in the dictionary when we do not care for the author's concept of some particular word, but as far as Dorland is concerned, we always seem to agree with what he thinks a word means; and as far as spelling is concerned, while we are no judge, we always assume that Dorland is correct.

Vitamins

We Need Vitamins. What Are They? What Do They Do? By WALTER H. EDDY, Ph.D., professor emeritus in physiological chemistry, Teachers College, Columbia University, and GESSNER G. HAWLEY, technical editor, Reinhold Publishing Corporation. New York: Reinhold Publishing Corporation, 1941. Pp. 102. Price $1.50.

This presentation is a condensation of Dr. Eddy's book, *What are the Vitamins.* From a highly technical manual this little book arose to answer simply and clearly the following questions concerning each vitamin: What is the vitamin?, What are its chemical and physical properties? How is its potency determined and expressed? What does the vitamin do? How does it accomplish this effect? How much of it do we need daily? Where and how can we get it? The book is a valuable contribution to those untrained in chemical nutrition.

Critique

Wisdom from William James In his *Selected Papers on Philosophy* (Everyman Series, p. 57) William James wrote: "We all know persons who are models of excellence, but who belong to the extreme philistine type of mind. So deadly is their intellectual respectability that we can't converse about certain subjects at all, can't let our minds play over them, can't even mention them in their presence. I have numbered amongst my dearest friends persons thus inhibited intellectually, with whom I would gladly have been able to talk freely about certain interests of mine, certain authors, say, as Bernard Shaw, Chesterton, Edward Carpenter, H. G. Wells, but it wouldn't do, it made them too uncomfortable, they wouldn't play. I had to be silent. An intellect thus tied down by literality and decorum makes on one the same sort of impression that an able-bodied man would who should habituate himself to do his work with only one of his fingers, locking up the rest of his organism and leaving it unused."

American Eating Habits in 1928 On November 2, 1928, Dr. George Walker, Baltimore physician and research worker, told the American Dietetic Association about the initial results of his study of the eating habits of 750 American families, ranging from the very poor to the very rich. His investigations grew out of his interest in the welfare of orphans and other inmates of public institutions. He said that practically all of those he studied, whether they averaged only six cents a day per individual or $1.95, consumed too little of essential minerals, too much vegetable and too little animal protein, less than half their requirements of nondigestible, fibrous or cellular material, and probably only twenty percent as much as they needed of raw foods containing the very important but then little understood vitamin C. He calculated that for the average growing child living at home a minimum food expenditure of 57.31 cents a day, retail prices, was necessary; for adults 44.58 cents would do, the difference being accounted for largely by the fact that the youngsters required a quart of milk daily, adults only a pint.

Sickness Insurance the World Over The International Labor Office at Geneva got out a report on sickness insurance the world over in 1927. Mutual aid sickness funds got their start in Great Britain and later spread to continental Europe. The first country to make sickness insurance compulsory was Germany when Bismarck instituted the idea for political reasons in 1883. Industrial workers were covered first, later workers in commerce and agriculture were included. Austria and Hungary introduced compulsory sickness insurance for industrial, transport, and commercial workers in 1888. Luxembourg followed in 1901, Norway in 1909, Serbia in 1910, Great Britain and Russia in 1911, and Rumania in 1912. The new countries created by the war in 1914-18 usually kept and amended the systems inherited by them. Japan started sickness insurance in 1922 and Chile in 1924. Chile, Portugal, and Switzerland in 1927 had made sickness insurance compulsory for those who worked for themselves. From three to thirty-five percent of the total populations or fifteen to eighty-six percent of the workers in various lands were covered at that time. The idea of restoring the patient to full health came in train, including the provision of drugs, specialists, convalescent care, maternity benefits, and medical aid to the worker's immediate family. Tens of millions of European households were covered. Soviet Russia stood alone in accepting no worker contributions. In general worker contributions paid half the upkeep of the systems elsewhere. State management of the systems existed only in Bulgaria and Japan. Italy, Sweden, New Zealand, Union of South Africa, Denmark, Belgium, Finland, France, Spain, Switzerland, Argentina, Australia, Canada, and Uruguay, and to a limited extent East India had voluntary systems. Over fifty-seven percent of the population of Denmark was insured.

Medical Economics In the *J.A.M.A.* for November 26, 1929, M. L. Harris, M.D., once president of the A.M.A., told about a young girl who earned thirty dollars a week and required an immediate appendectomy. She was rushed to the hospital and a clean operation was performed after she had borrowed money from friends to pay the hospital in advance as demanded. The surgeon, knowing the circumstances of his patient, demanded $1,500. The girl said that was impossible. She was not permitted to leave the hospital until she hired an attorney to get her out. Dr. Harris also told how a "chief surgeon of one of our hospitals did an exploratory laparotomy on a man with an inoperable carcinoma of the stomach." The patient's wife meanwhile waited in the surgeon's office. When the surgeon returned he demanded $5,000 at once. The wife said it would be impossible for her to raise the five grand the gangster demanded. The surgeon insisted immediate payment of the fee was customary and she must make the arrangements at once. At this point he remembered a minor detail and told the wife that her husband had died in the operation. Later the widow's attorney wrote the physician suggesting that there must be some mistake in his bill; the surgeon replied there was indeed—he had forgotten to charge for bandages—that would be $62, so $5,062 was correct. Finally, Dr. Harris told about a regular physician who injected a fraudulent anticancer serum into a woman with cancer of the stomach. The woman's husband earned $147 a month. The doctor said he usually got $300 each for his injections, so the husband gave him his salary for the month, plus $3 he borrowed, plus his note for $150. The doctor told the woman not to expect improvement for at least six months, but she got worse and worse. Class on medical economics dismissed.

Business Minds In his once famous *Twilight of the American Mind,* Walter B. Pitkin said the pace of business was set by lower grade minds which were numerous in business because business required little first-rate direction, hence commercial fraud and low ethics. Men usually failed in business as a result of low competence. The commonest cause of failure was plain stupidity, flat incompetence. Next came lack of capital, third as a cause of failure was inexperience, and fourth personal extravagance,

while fifth stood unwise credits. These five causes comprised 74.8 percent of the known reasons for failure in business. They all summed up to faulty intelligence and confirmed the fact otherwise ascertained that about seventy-five percent of all our people were too incompetent to run a business. In the *Personnel Journal* (6:344) about this time Beety and Cleeton wrote on predicting achievement. They studied ninety graduates of the College of Engineering and Industries of Carnegie Institute of Technology, trying to trace out the relationship between scholarship, intelligence, extrasocial activities, and later importance of position achieved. Five basic intelligence tests gave a correlation of –0.083, practically zero, showing that this counted little in getting ahead. Salaries later received also correlated negatively with intelligence. At Purdue University it was found that "front" and "good address" stood out most prominently in producing success in engineering graduates. Then, in order, came aggressiveness, enthusiasm, accuracy in work, self-reliance. Humor, neatness, and sincerity showed but slight correlation with ultimate success, morals none at all. As many good engineers as bad had bad morals. Reasoning powers came in twelve in a list of twenty-three traits and eleven other traits were therefore more important to success. While superior personalities achieved an average income of $3,000 a year 5.5 years after graduation, those of inferior personality received only $2,076, regardless of ability and basic intelligence.

Pitkin to Doctors In his *Twilight of the American Mind,* Walter B. Pitkin said that a general practitioner, with one good assistant physician, two trained nurses, a chauffeur trained in first aid, and two servants trained in simple sick room duties could attend ten thousand people, taking care of illness in a town of that population. If he charged $5 a year per inhabitant he would gross $50,000. Columbia University then had 33,750 people of whom 20,000 annually availed themselves of medical treatment in a central and a branch clinic, plus visiting nurses. In 1926 there were 30,850 office calls, 8,069 were treated, and the remainder reassured. Nearly seven thousand came for colds in the head and throat, a petty infection on which Pitkin thought medicine had failed. The medical set-up of the time at Columbia was staffed by a head doctor, three assistants, six nurses, and a few clerks at a total cost of $21,985.15. Bangor, Maine, at the time, had 25,978 inhabitants and all could be reached easily by the sixty-four local doctors. In addition Bangor then had a dozen quacks. But nineteen times as many physicians were required as at Columbia, making each man only one nineteenth as efficient as a Columbia doctor! Des Moines, Iowa then had 126,468 inhabitants, 289 regular physicians, and 50 dubious healers, or 1 per 373 people, double the average for the United States. Seattle, one of our healthiest cities, had 621 regular doctors and a swarm of quacks or 1 per 450 people. The United States then had 1 doctor per 753 people, Switzerland 1 to 1,290, Japan 1 to 1,359, Germany 1 to 1,940, and Sweden 1 to 3,500, and Sweden had a highly effective medical service too. Fishbein on September 21, 1927, told the National Clinical Congress at Yale that it would be mighty bad for the physician if he had only to look forward to $250 to $400 a month in some large organization where he automatically followed a narrow routine, becoming a tonsil mechanic, an adjustor of adenoids, or an inspector of sexual diseases. "The prospect is not likely to appeal to the type of men who now become physicians." But Pitkin added the pay was good, as $3,000 to $5,000 annual income per doctor was more than physicians then earned as a usual thing. In any case the best minds would direct in such a large organization. Minor tasks would properly be detailed to the small minds which was far better than having so many small minds attempt universal general practice and good men looking at school girl's tongues, counting pulses, spraying throats, and changing the prescriptions of neurasthenics. While Fishbein had regretted the depersonalization of hospitalization, its greatest disadvantage was its disorganization, with cumbersome subdivisions of responsibility and need of constant detailed supervision. Much medical diagnosis is better if the relationship between patient and doctor is depersonalized. Large business organizations learn the art of personalizing each client and customer, then run it in the mud and worry customers with their efforts to be friendly. The worst depersonalization is due to the inability of the staff physician to deal with the psychological aspects of their patients; not one doctor in hundreds knows how to do this. With proper organization many ailments could be treated effectively at fifteen cents each! Let the big minds make the diagnoses. Organize the profession so the medical underdogs do only what they are capable of doing. Save money. Render economical service to the public. Be efficient. So said Pitkin.

Vitamin A, Anti-Infective? In the *British Medical Journal* for October 20, 1928, H. N. Green and E. Mellanby said it was a misnomer to call vitamin A "growth-promoting." Its relation to lack of infection had been noted by Drummond, Cramer, Kingsbury, and Steenbock. Large numbers of animals had been fed a vitamin A deficient diet consisting of casein, rice starch, salt mixture, sucrose, marmite, olive oil, and lemon juice for 53-115 days, and then postmortem. The control animals had no lesions. Many lesions similar to those found in man were found in the deficient animals in lungs, neck glands, nasal sinuses, prostates, cervical glands, fallopian tubes, submaxillary glands, ileocecal glands, seminal vesicles, middle ears, thyroids, and testicles, which were often infected, as well as the eyes and kidneys. Stone was common; so were tongue abscesses and infections of the alimentary tract. The authors suggested that these facts be borne in mind in treating infective and pyogenic conditions among humans.

What a Family Needs In 1900 the average better-class family required maybe two bicycles, a wringer and washboard, a few brushes, brooms, and tubs, and a sewing machine; $100 would buy the lot. Since 1928 the family has required a $900 automobile, a $100 radio or $150 radio-phonograph, a $150 washing machine, a $75 vacuum cleaner, a $15 kitchen mixer, a $75 electric sewing machine, a telephone costing $35 a year at least and some $50 additional worth of electrical gadgets and machines, if not a $50 ironer; that takes from $1,400 to $1,500. Is it worth it? THE CRITIC

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The manuscript should carry the address of the author.

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We would appreciate any items of current interest which our readers may send in.

WEDNESDAY, JANUARY 21, 1942

Medicolegal Notes

Distinction between Professional Disclosure and Testimony

The Iowa Supreme Court, Noble vs. United Ben. Life Ins. Co., 297 N. W. 881, says that: "An analysis of the [confidential communications] statute and the cases thereon both in Iowa and other jurisdictions clearly indicate that the purpose of the statute is to prohibit the giving of testimony in a court in some proceeding where the witness is under oath. In other words, there is a distinction between the disclosure of a fact and the testifying to a fact." A doctor's statement to an insurance company disclosing information as to a disease from which the insured suffered was not testimony. The doctor was held to have the legal right to make this disclosure without the consent of the insured. The consent merely released him from his ethical obligation to tell no one. But in an action on a life policy it was held that the trial court properly refused to permit the doctor to testify that the insured was suffering from the disease which caused his death at the time he applied for the policy.

Inference as to Existence of Disease Excluded

To authorize an award for death on the ground that a compensable injury accelerated a diseased condition and hastened death, under the Ohio Workmen's Compensation Act, the diseased condition must be shown to have existed at the time of the injury. An inference drawn by a physician that cancer which caused the employee's death was present when an operation, required by the compensable accident, was performed, drawn from the fact that the employee had cancer six months after the operation, and the further inference that the cancer was accelerated by the operation, and another physician's opinion based on the first physician's statements, did not, it was held, make a jury question as to whether the accident aggravated an existing disease, so that the Industrial Commission's disallowance of the award was affirmed. Hoppe vs. Industrial Commission of Ohio, 137 Ohio St. 367, 30 N. E. 2d 703.

Exemption from Taxation of Hospital Service Corporation

A hospital service corporation organized the Massachusetts statute of 1936, declaring corporations subject to the act to be charitable corporations, whose property is exempt from state, county, district and municipal taxes, and which operates a nonprofit hospital service plan, excess revenue inuring to the benefit of future subscribers, or, on dissolution of the corporation, to be disbursed as in the case of any other charity, is exempt from taxation under Title VIII of the Social Security Act and the internal revenue act applicable thereto, as being a corporation organized and operated exclusively for charitable purposes within the meaning of these words in the two statutes. Associated Hospital Service Corporation of Massachusetts vs. Hassett, Federal District Court for Massachusetts, 37 F. Supp. 822.

Award to Hospital Nurse

A student nurse in a state hospital was assigned to several wards having many cases of tuberculosis and a test showed he was infected. He was later assigned to a city hospital for further training, where he had direct contact with but very few tuberculous patients. The nurse was held entitled to an award of compensation against the State Insurance Fund when he became disabled by tuberculosis a year after he entered the city hospital. The Industrial Board's finding that the exposure at the state hospital was the sole producing cause of claimant's disease and resultant disability was held sustained by the evidence. Nichols vs. Central Islip State Hospital, New York Appellate Division, 30 N. Y. S. 2d 32.

Failure to Take Precautions for Jury

In a malpractice action alleging that the defendant physician in making a vaginal examination of plaintiff while pregnant, failed to take proper precautions, resulting in plaintiff's suffering from a severe streptococcic infection, the California District Court of Appeal, Anderson vs. Stump, 109 P. 2d 1027, held that the questions whether the glove used by the doctor was sterilized and whether he wore a sterilized gown or made the examination clothed in street clothes, were for the jury and a nonsuit was reversed and the case remanded for a new trial.